

CRANFIELD UNIVERSITY

ZOE ROWE

**INFLUENCING SUSTAINABLE PRODUCT CHOICE THROUGH
ANTICIPATED PRIDE AND GUILT: THE ROLE OF SELF-
ACCOUNTABILITY AND RECALLED EMOTIONS**

SCHOOL OF WATER ENERGY AND ENVIRONMENT

PhD THESIS

January 2017

Supervisors:

Dr. Fiona Charnley

Prof. Hugh Wilson

Academic advisor:

Dr. Radu Dimitriu

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Doctor of Philosophy**

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ABSTRACT

Consumption choices are significant in determining sustainability outcomes. Therefore, an area of particular interest for both scholars and practitioners is that of consumer behaviour and the challenge of encouraging sustainable consumption habits. Sustainable consumer behaviour is important, yet slow to change, with many individuals stating that they care about being sustainable, yet not demonstrating this in their actual behaviour choices. This research proposes two related new theoretical routes to sustainable product choice, namely through self-accountability and through recalled emotions.

First, a systematic review of the extant literature was deemed necessary. A conceptual framework was developed that identified the antecedents to and moderators of sustainable behaviour change, informing a number of testable propositions and future research directions. Moreover, this synthesis uncovered the gaps in current knowledge that informed the research question and design of the empirical research that follows.

Adapting aspects of self-standards and self-discrepancy theory, the second stage of this research explored the construct of self-accountability for influencing anticipated pride and guilt about sustainable purchase behaviours, and thereby influencing the behaviour itself. Two field surveys tested a number of structural models to measure the effect of self-accountability on purchase intentions, mediated by feelings of anticipated pride and guilt. The results found that consumers with higher levels of self-accountability are more likely to be influenced by anticipated feelings of pride towards the outcome of sustainable purchase behaviour.

The third part of this research tested a manipulation of recalled pride and guilt across two experimental studies, to explore their effect on feelings of anticipated pride and guilt and hence on sustainable purchase intentions. The studies showed that the manipulation of recalled pride was more significant than that of recalled guilt, as compared with a neutral recall, in influencing purchase intentions. There was a significant mediation effect of both anticipated pride and guilt, with anticipated pride again showing higher significance.

Overall, this research highlights the significant role of pride and guilt for encouraging sustainable purchase choices. Specifically, it highlights the superior role of pride and offers two complementary mechanisms for engendering feelings of anticipated pride and guilt. A manipulation is proposed whereby appraisal of pride and guilt can be a suitable mechanism to trigger sustainable purchase intentions, contributing to both theory and practice.

The situation the Earth is in today has been created by unmindful production and unmindful consumption. We consume to forget our worries and our anxieties. Tranquilising ourselves with over-consumption is not the way.

-Thich Nhat Hanh

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An attitude to life which seeks fulfillment in the single-minded pursuit of wealth - in short, materialism - does not fit into this world, because it contains within itself no limiting principle, while the environment in which it is placed is strictly limited.

-E. F. Schumacher

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GLOSSARY

Appraisal theory

Emphasises that encouraging individuals to reflect on a past event and its associated emotions can act as a basis for an individual to make future decisions (Ajzen, 2002; Levine et al., 2001). Individuals then use this evaluative state to make judgments that inform future behaviour decisions (Levine et al., 2012; Hasford et al., 2015).

CIMO-Logic

CIMO (Context, Intervention, Mechanism, Outcome) logic is a change-oriented approach that identifies what interventions result in what outcomes, what theoretical mechanisms explain these effects, and how context impacts on these relationships (Tranfield *et al.*, 2003).

Guilt

A negative self-conscious emotion elicited when an individual attributes failure to an “internal, unstable, and controllable cause, such as effort” (Tracy and Robins, 2006, p1348).

Mediation analysis

The mechanism that underlies the relationship between an independent variable and a dependent variable is known as a mediator variable (Hayes, 2013). A mediation model tests hypotheses about mechanisms by which effects operate.

Pride

A positive self-conscious emotion elicited when an individual evaluates an event as relevant to the self for achieving their goals (Louro et al., 2005; Tracy and Robins, 2007).

Self-accountability

Derived from self-discrepancy theory (Higgins, 1987), self-accountability is defined as the extent to which one feels accountable to live up to a personally held self-standard (Peloza et al., 2013)

Self-conscious emotions

A self-conscious emotion, such as pride, guilt and shame, influences behaviour through the attribution of responsibility to one's self (Tracy and Robins, 2004; 2007).

Structural Equation Modelling

A statistical approach to the estimation of the parameters of multiple simultaneous equations based on a data sample that includes both independent and dependent variables. This aids theoretical development by testing how constructs are linked and the extent to which different models fit the data where there are multiple rival models where each of which is theoretically plausible (Hair et al., 2008; Schreiber et al., 2006).

Pro-environmental consumer behaviour

Behaviour relating to consumer products, services and experiences, which aims to minimise harm to the natural environment (author's definition, adapted from definitions by Park and Ha, 2012, Steg and Vlek, 2009, and Stern, 2000).

1. INTRODUCTION

As consumption choices are significant in determining sustainability outcomes such as greenhouse gas emissions, an area of particular interest is that of consumer behaviour and the challenge of encouraging sustainable consumption habits. Not only is research interest in this area increasing amongst scientists, awareness among the public is also increasing. Sustainability is becoming an established social norm in western society (Peloza et al., 2013) and sustainable consumption is becoming more mainstream (Davies et al., 2012; Davies and Gutsche, 2016). in part due to the more frequent media reports across various media channels. Although many individuals state that they care about being sustainable, many do not demonstrate this in their actual behaviour choices, suggesting the existence of an attitude-behaviour gap (Papista and Krystallis, 2013).

This chapter outlines the rationale for undertaking this research to understand and influence sustainable consumer behaviour, from both a literature and a personal perspective. The aim, objectives and research question are then presented, followed by an overview of the research design. A summary of publications is listed before ending this section with an overview of the individual chapters that make up this thesis. A summary of the research objectives, theoretical contributions and corresponding chapters is depicted in Figure 1-1.

1.1 Research rationale

The rationale is discussed under two perspectives, from a literature perspective and a personal rationale.

1.1.1 Literature rationale

Research interest in environmentally sustainable consumer behaviour has been increasing in recent years, and the marketing function is increasingly being turned to in the hope of influencing behaviour choices towards more sustainable alternatives (Peattie and Peattie, 2009; Gordon et al., 2011).

The challenge practitioners face is that even though individuals state that they care about being sustainable, many do not demonstrate this in their actual behaviour choices, suggesting the existence of an attitude-behaviour gap (Minton and Rose, 1997; Cleveland *et al.*, 2005; Papista and Krystallis, 2013). The dominant theory applied to sustainable behaviour change is the Theory of Planned Behaviour (Ajzen, 1991), which assumes the need to change attitudes or rely on societal norms. These attempts have, however, had limited success in changing attitudes and behaviour (Dickerson, Thibodeau et al., 1992). While the potential for complementary social effects in encouraging sustainable behaviours is rightly being explored (Steg and Vlek, 2009; Champniss et al., 2015), these are not always applicable, especially with the relatively small size of deep green consumer segments. Some more recent work of interest has successfully extended the Theory of Planned Behaviour to include additional variables such as past behaviour (Ajzen, 2002; Bamberg et al., 2003) and emotions (Moons and De Pelsmacker, 2012).

Marketing research has demonstrated that emotions play an important role in consumers' decision-making (Kemp, Bui and Chapa, 2012); however, the emotions literature is dominated by negative emotions such as explicit guilt or fear appeals that have had limited success (Dickerson, Thibodeau et al., 1992; Huhmann and

Brotherton, 1997; Chen, 2015). Only recently have positive emotions such as pride been studied in depth in marketing literature (Peter and Honea, 2012; Schaffner and Demarmels, 2015). More recently, the role of both anticipated pride and guilt have been explored in encouraging sustainable behaviour intentions (Onwezen et al., 2013; Antonetti and Maklan, 2014a, 2014b). What is still unclear, however, is how to elicit feelings of anticipated pride and guilt in order to inform future sustainable consumption.

In order to tackle this challenge of eliciting sustainable behaviour, and eliciting anticipated pride and guilt in particular, a promising body of research which is well established in psychology literature is self-standards and self-discrepancy theory (Higgins et al., 1987). This theory understands individuals to have internally held self-standards that guide behaviour. If a discrepancy occurs between one's actual behaviour and an ideal self-standard, individuals will be motivated to act accordingly so as to align them (Higgins et al., 1987). Applications of these concepts have examined the impact of self-discrepancy on a number of behaviours, but only in one study by Peloza et al., (2013) to the issue of ethical consumer decision-making. These authors develop a measure for self-accountability, which they define as the extent to which one feels accountable to live up to a personally held self-standard. An individual's sense of accountability towards living up to their self-standards is believed to lead to feelings of anticipated guilt that can motivate sustainable behaviours (Peloza et al., 2013), yet the potential of anticipated pride for motivating behaviour has not been explored within this self-discrepancy literature.

A second possible mechanism for eliciting sustainable behaviour via anticipated pride and guilt is inspired by a promising study by Antonetti and Maklan (2014a), which

demonstrates that feelings of anticipated pride and guilt, elicited through a postconsumption scenario, can successfully influence future ethical purchase decisions. Building on this research, a theoretical possibility for influencing *anticipated* pride and guilt is to look at the role of emotional *recall*. The impact of recalling a past emotion on future behaviour outcomes is believed to influence behaviour via their impact on anticipated emotions. Most of the recalled emotion studies, however, have the limitation that they measure merely emotional valence (Baumeister et al., 2007) and not specific emotions. The role of emotional appraisals of pride and guilt, elicited from a past behaviour, for influencing anticipated pride and guilt and hence future sustainable behaviour is not clear.

Overall, then, there is a need to synthesise knowledge on these and other possible means of achieving sustainable consumer behaviour, and in particular to explore further the potential of two potential mechanisms for achieving this behaviour: the impact of self-accountability on anticipated emotions, and the impact of emotional recall on these anticipated emotions.

1.1.1 Personal rationale

I came to start this PhD after completing my Master's degree at Cranfield University. Whilst undertaking modules in consumer insights, service design, innovation and sustainability, I was increasingly interested in the challenges of shifting consumer behaviour towards the adoption of sustainable products and services. After attending presentations from various companies and working with sustainability communications agency Clarity Sustainability, who became sponsor of my PhD, I became aware that much of the current sustainable marketing practice consisted of CSR jargon and

‘greenwashing’. What was unclear was what, if anything, companies were doing to encourage consumers to change their behaviour towards being sustainable. Companies seemed to be concerned with CSR and changing attitudes towards the brand, yet few seemed to be focussed on ways of encouraging long-term sustainable behaviour.

The first trigger that motivated my interest to undertake this PhD research occurred whilst I was working with Clarity Sustainability on their sustainable marketing communications projects. This brought home to me the challenges their clients were facing in changing sustainable behaviour and in targeting certain market segments with sustainability communications. The second trigger was when I was introduced to the concept of the Circular Economy and the Ellen MacArthur Foundation whilst completing my Master’s degree. I had the opportunity of attending a number of events and speaking with a variety of businesses, all of which were interested in moving their business’s practice towards a circular economy. Interestingly, many of these businesses identified the challenges of engaging consumers in new ‘circular’ business models and the need to reduce the perceived barriers and trade-offs associated with them. As someone who has shifted from a reasonably typical mass consumer to an environmentally conscious one, this area of research encompasses an exciting opportunity to influence consumer behaviour to become more sustainable, and thereby ultimately to have a positive impact on the planet.

1.2 Aim, Objectives and Research Question

1.2.1 Research aim

This thesis aims to influence sustainable product choice through feelings of anticipated pride and guilt by exploring the roles of self-accountability and recalled emotions.

1.2.2 Research question

The overall research question is as follows:

What are the antecedents of anticipated pride and guilt for influencing sustainable product choice?

1.2.3 Objectives

The objectives for this thesis are to:

Objective 1: to synthesise current knowledge on pro-environmental consumption behaviour, in order to generate a conceptual framework for the topic and outline future research directions (including but not limited to those pursued in the following empirical work).

Objective 2: to gain an understanding of what causes feelings of anticipated pride and guilt for motivating sustainable purchase choices.

Objective 3: to test ways of manipulating appraisals of pride and guilt for encouraging sustainable purchases.

See Figure 1-1 for a graphical summary of these objectives, the contributions that result and how these relate to the chapter structure (described below).

CHAPTER 1 Introduction	The rationale for undertaking this research is outlined from a literature and personal perspective. The research aim and objectives are presented and the research design is discussed. A summary of publications to date and a publication plan is listed.	
CHAPTER 2 Literature review	Objective 1 To synthesise current knowledge on pro-environmental consumption behaviour, in order to generate a conceptual framework for the topic and outline research directions.	Theoretical contributions Synthesises existing literature on sustainability marketing to develop a conceptual framework and set of propositions to inform future research.
CHAPTER 3 Self-accountability	Objective 2 To gain an understanding of what causes feelings of anticipated pride and guilt for motivating sustainable purchase choices.	Theoretical contributions Heightened self-accountability increases preference for sustainable products, mediated by feelings of anticipated pride and guilt.
CHAPTER 4 Recalled emotions	Objective 3 To test ways of manipulating appraisals of pride and guilt for encouraging sustainable purchases.	Theoretical contributions Feelings of pride associated with a past behavior can trigger anticipated pride and guilt towards future behavior intentions.
CHAPTER 5 Overall discussion	The findings of this research are discussed in relation to the literature and present the contributions of this research to both theory and practice. Opportunities for future research are addressed and a final conclusion is presented.	

Figure 1-1 Summary of research objectives, theoretical contributions and corresponding chapters

1.3 Overview of research design and thesis format

The thesis is presented in ‘paper format’, presenting the work in the form of three papers in journal paper style, rather than in the style of a monograph. There are additional chapters for the Introduction and Overall Discussion, as outlined in Figure 1-1. Before the two empirical papers are presented, a literature review paper synthesises knowledge on marketing communications for sustainable behaviour change and the theoretical viewpoints underlying this work. Propositions from the reviewed literature are presented and research directions proposed. This review of literature identified the research gap and research question for the empirical work that follows, but the conceptual model it contains and its systematic review of the state of knowledge also contribute to the literature in their own right.

This PhD research aims to explore whether there are alternative means by which consumers can be engaged in sustainable consumption choices. The empirical work specifically builds on previous research exploring the role of pride and guilt through four empirical studies which are reported on in two empirical papers, depicted in Figure 1-2. A number of hypotheses and conceptual models were tested across these four studies, two of which were surveys, and two experimental designs. Each asked customers about their real views and intentions rather than using hypothetical laboratory approaches, to maximise internal validity. The samples were drawn from postgraduate students in one case and consumer panels in the other three, to maximise ecological validity.

The first two empirical studies conducted made up journal paper 2. The first of these was a quantitative field study that explored multiple rival conceptual models for the

impact of self-accountability on consumer decision-making, using a sample from an online consumer panel, and in a context with environmental sustainability implications. The second study built on Study 1 to test an additional conceptual model, using a fresh consumer panel sample and in a complementary context involving social sustainability. This paper has been accepted for publication in *Psychology & Marketing*, as outlined in the following section.

The results of these studies informed the design of an additional two studies that formed journal paper 3, focused on the role of recalled emotions around past behaviours in informing future behaviours. These studies were both online experiments, the first with a postgraduate student sample (journal paper 3; Study 1) and the second with a sample from online panel provider MTurk (journal paper 3; Study 2).

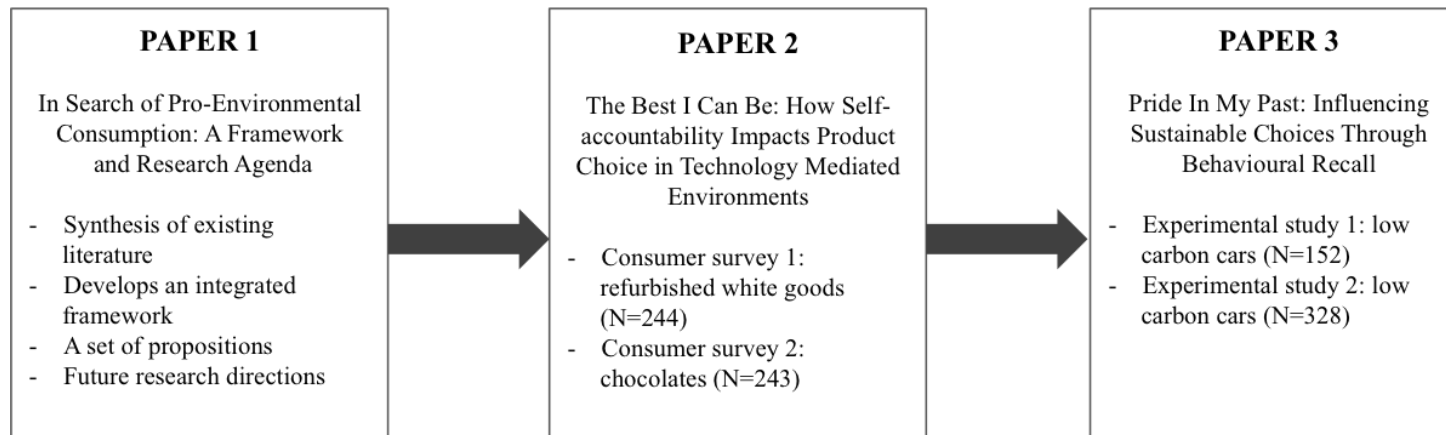


Figure 1-2 Summary of research process

1.4 Publications to date and publication plan

Accepted journal paper

Rowe, Z., Wilson, H.N., Dimitriu, R., Breiter, K., and Charnley, F.

The Best I Can Be: How Self-accountability Impacts Product Choice in Technology Mediated Environments

Psychology and Marketing (In press)

Academic journal papers in review and in preparation

Rowe, Z., Wilson, H.N., Dimitriu, R., Lastrucci, G. and Charnley, F.

Pride in My Past: Influencing Sustainable Choices Through Behavioural Recall

Journal of Business Ethics (In review)

Rowe, Z., Wilson, H.N., Macdonald, E., and Charnley, F.

In Search of Pro-Environmental Consumption: A Framework and Research Agenda

To be submitted prior to PhD viva; journal to be determined

Refereed Conference paper

Rowe, Z., Wilson, H., Dimitriu, R., Breiter, K., and Charnley, F.

The Best I Can Be: Self-accountability in Online Sustainable Product Choice.

European Conference of Social Marketing, Aalto, Finland. September 2016.

(Awarded runner up best academic paper)

Practitioner conference

Rowe, Z. (July 2016)

Challenges and opportunities of engaging consumers in the adoption of new circular products and services.

Fifth Annual Conference of the EPSRC Centre for Industrial Sustainability.

Industry reports

Rowe, Z., and Tymms, L. (2014)

Sustainability Communications in a Nutshell

Clarity Sustainability, <http://www.think-sustainability.co.uk/articles/view/whats-in-it-for-me>

Rowe, Z., and Tymms, L. (2015)

Communications for Changing Energy Behaviours

Clarity Sustainability. <http://www.think-sustainability.co.uk/sustainability/view/changing-energy-behaviours-report>

Rowe, Z., and Tymms, L. (2015)

Communications for Changing Recycling Behaviours

Clarity Sustainability (In development)

Webinar

The Challenges of Consumer Engagement

DiF Festival 2015, <http://www.think-sustainability.co.uk/articles/view/dif-2015>

1.5 Thesis structure

The next three chapters (numbered 2 to 4) contain the papers 1 to 3 described above. Each of these chapters is introduced by a reiteration of the corresponding objective (see section 1.2 above) and, where relevant, the journal paper it relates to, and the current progress of the journal paper in the review process. Details follow.

Chapter 2 reviews the literature that forms journal paper 1. The systematic review process undertaken is explained and a conceptual model of the findings is presented. Testable propositions and research directions are discussed. These include, but are far from limited to, the research directions addressed in the following two chapters.

Chapter 3 introduces a conceptualisation of self-accountability and self-conscious emotions. A number of conceptual models are tested for the impact of self-accountability on behaviour. Results from two field surveys are presented and the findings are discussed along with limitations and future research directions. This forms journal paper 2.

Chapter 4 tests a mechanism for manipulating recalled pride and guilt and measures its impact on sustainable purchase intentions via feelings of anticipated pride and guilt. The methodology and results for the two studies are presented and the overall findings and implications are discussed. This forms journal paper 3.

Chapter 5 discusses the overall findings in relation to the literature and outlines contributions to theory and practice. The findings of this research are discussed in relation to the literature and the contributions of this research are discussed in relation to both theory and practice. Opportunities for future research are addressed before a final conclusion and a personal reflection is presented.

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2. IN SEARCH OF PRO-ENVIRONMENTAL CONSUMPTION: A FRAMEWORK AND RESEARCH AGENDA

This chapter relates to the thesis's **Objective 1**: to synthesise current knowledge on pro-environmental consumption behaviour, in order to generate a conceptual framework for the topic and outline future research directions.

This chapter forms journal paper 1 (in preparation for journal submission).

2.1 Overview

The first stage of this research was to conduct a systematic literature review to synthesise the literature on pro-environmental behaviour and to develop a conceptual framework. Given the breadth of this literature, it focuses on environmental sustainability specifically (leaving aside social sustainability issues). This review draws upon and integrates a number of diverse literature domains, notably around consumer marketing, (consumer) psychology, and environmental sustainability. The systematic literature review highlighted a number of research opportunities that informed the empirical work that follows, including the role of self-conscious emotions and the role of self-accountability (Figure 2-1).

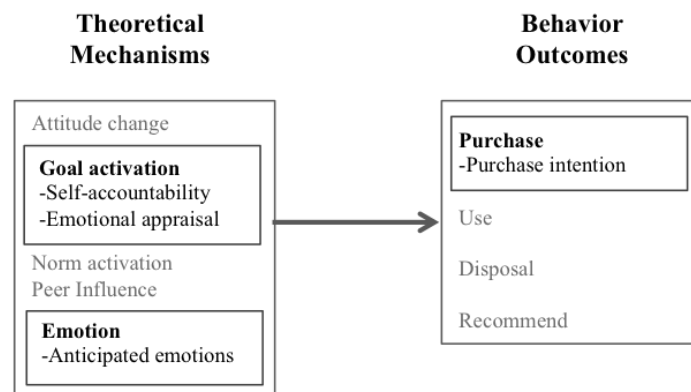


Figure 2-1 Gaps in knowledge identified from the synthesis of literature which are addressed in the following empirical chapters

2.2 Abstract

Consumption choices are significant in determining sustainability outcomes such as the level of greenhouse gas emissions, so mechanisms for encouraging pro-environmental consumption behaviour represent an important marketing research topic. Most research has focused on the attitude change mechanism but its effectiveness has been limited due to the attitude-behaviour gap. A number of complementary theoretical mechanisms have therefore been explored in recent years. Through a systematic literature review, this paper proposes an integrated framework to explain how marketing interventions can lead to pro-environmental consumer behaviour outcomes through a range of mechanisms, in various contexts. From this framework a set of propositions emerge based on research to date, which act as a guide for practitioners and a starting-point for future research. Implications for academics and practitioners are discussed and important research directions are highlighted.

Keywords: pro-environmental behaviour; sustainable consumption; marketing interventions

2.3 Introduction

Sustainable consumption behaviour is important in tackling environmental issues such as reducing greenhouse gas emissions and addressing resource scarcity. Research interest in environmentally sustainable consumer behaviour has accordingly been increasing in recent years. The marketing function which has valuable expertise in impacting consumption behaviour is increasingly being turned to in the hope of influencing behaviour choices towards more sustainable alternatives (Peattie and Peattie, 2009; Gordon et al., 2011). These choices include, but go beyond, the purchase of environmental products to include any number of consumable products. The burgeoning interest in the circular economy (Ellen MacArthur Foundation, 2013) illustrates the potential for engaging consumers across the entire product life-cycle, including not just purchase but also use and disposal. Consumer interest in repairing their existing goods (Schrader and Thøgersen, 2011) and purchasing refurbished used goods (O'Connell, Hickey and Fitzpatrick, 2013) are just some examples of sustainable consumption.

While the literature on social sustainability, focused on behaviour that has positive social consequences to an individual's wellbeing, is long established, environmental sustainability research is predominantly a field of the past fifty years, as awareness of global environmental threats has grown. There are commonalities between social and environmental sustainability, but also significant differences. For example, consumer values towards the environment play a significant role in pro-environmental behaviour (Follows and Jobber, 1999), while in the case of social sustainability, there are additional factors such as whether the beneficiaries of socially sustainable behaviour are regarded as part of an in-group or an out-group (Champniss et al., 2015). Both of

these now substantial literatures deserve focused attention; this paper focuses on environmental sustainability. Specifically, we adapt definitions by Park and Ha (2012), Steg and Vlek (2009) and Stern (2000) to define pro-environmental consumer behaviour as behaviour relating to consumer products, services and experiences that minimises harm to the natural environment.

The growing literature on pro-environmental consumer behaviour is published across multiple journals and disciplines, and uses a variety of theoretical bases. Given this fragmented picture, a distillation of existing empirical evidence can usefully inform practitioners' marketing strategies. Furthermore, a theoretical synthesis of the mechanisms underpinning pro-environmental behaviour can provide a platform for future research. The purpose of this paper is therefore to review the extant literature in order to gain an understanding of how marketing interventions can engender pro-environmental behaviour. A systematic literature review is synthesised using CIMO (Context, Intervention, Mechanism, Outcome) logic (Tranfield et al., 2003), a change-oriented approach that identifies what interventions result in what outcomes, what theoretical mechanisms explain these effects, and how context impacts on these relationships.

This study thus contributes to literature by providing a conceptual framework outlining the options available for those wanting to adapt marketing principles to engender pro-environmental behaviour. We develop from the available evidence a number of propositions about how marketing interventions influence behavioural outcomes, as a guide to practitioners and to signpost research opportunities. We discuss implications of the framework for scholars and practitioners, and provide an agenda for future research.

2.4 Method

We use the systematic literature review method (Tranfield et al. 2003; Denyer and Tranfield, 2009) in which a comprehensive search of literature is conducted using an explicit step-by-step approach to aid in replication. There are three main phases: literature search; quality screening; and synthesis (Pilbeam et al. 2012).

The literature search was informed by the review question: *How can marketing efforts engender pro-environmental behaviour outcomes?* The databases searched were ABI Inform Complete and EBSCO Business Source Complete, which include access to over 900 peer-reviewed journals. The following search strings were used, looking for keywords within the title or abstract: (marketing OR communicat* OR advert* OR promotion OR message) AND (“environment*” OR green) and (behav*). This resulted in 2237 articles, of which 167 were duplicates and therefore discarded. The remaining set of papers was filtered for relevance to the research question by examination of titles and abstracts. Notably, as the question focuses on consumer behaviour, articles were removed if they focused on business-to-business or within-organisation issues such as organisational learning, organisational change, employee behaviour, industrial psychology, managerial decision, managerial behaviour, or leadership. Other topics outside the review scope were product innovation, policy, government, and sustainable development. This filter resulted in 479 articles relevant to the research question.

In the next quality screening step, the full text of these 479 articles was examined for quality, using the criteria of Table 2-1 and as a result 399 articles were discarded, leaving 80 articles in the final article set for the review. These are indicated with a * in the reference list.

The field of environmental behaviour has been developing since 1977, with a surge of research evident in 1995. From then, the field has been steadily increasing until 2012, where there was a spike in research that almost trebled that of 2011. This surge was consistent across 2013 and 2014 before dropping again in 2015 and 2016. The environmental behaviour research has spanned across a number of journals from different fields with various impact factors. Of these, fifty-one papers were found in marketing journals, fifteen were found in management journals, fourteen were found in environmental science journals and six were found in social science journals.

In systematic reviews, the literature synthesis should also use a pre-determined, explicit method (Klassen et al., 1998). The literature was synthesised into an integrated conceptual framework based on CIMO-logic (Denyer et al., 2008). This approach draws on the design science paradigm that aims to design interventions for improved outcomes, to understand the theoretical mechanisms by which interventions have an effect, and to take account of context (Van Aken, 2004). This process resulted in the conceptual framework of Figure 2-2.

Table 2-2-1 Systematic literature review: Inclusion and exclusion criteria

Criteria	Rationale
<i>Criteria for inclusion</i>	
Qualitative and quantitative empirical studies	Both qualitative and quantitative studies have contributed to this research field
Peer reviewed	Peer reviewed papers are of higher quality than non-peer reviewed documents
Published after 1970	The 1970s were recognised as the starting decade for environmentalism
Addresses marketing communications for pro-environmental behaviour change	The focus of the research is marketing communications for pro-environmental behaviour change
<i>Criteria for exclusion</i>	
Conceptual studies	The objective of this research is to identify what is known and therefore has been tested
Publications in any language other than English	The researcher cannot understand any other language besides the difficulties in establishing the equivalence of terminologies.
Papers that are: <ul style="list-style-type: none"> • Organisational only • Managerial only • Social sustainability only 	These topics are irrelevant as they do not focus on marketing communications for pro-environmental behaviour change

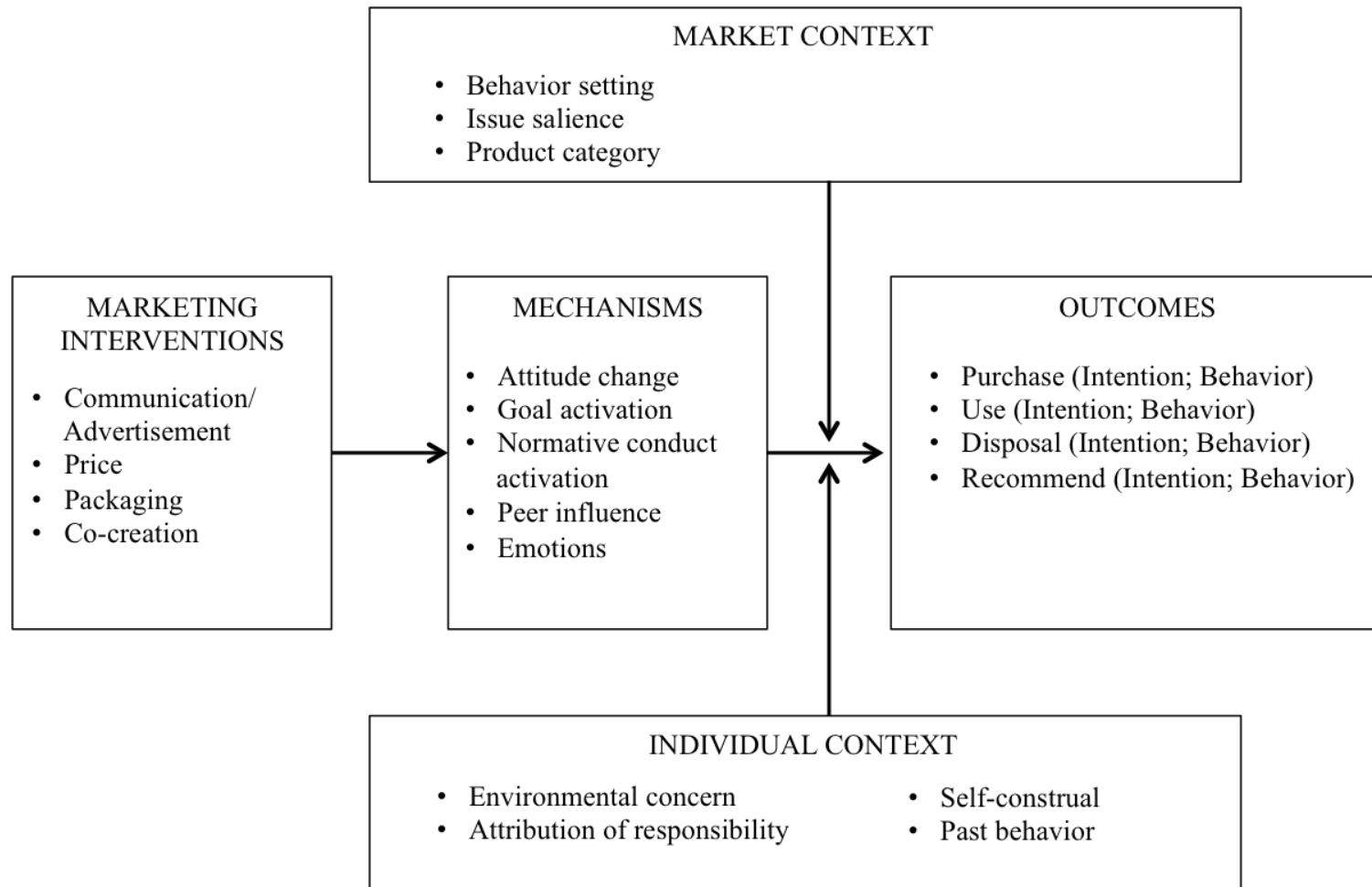


Figure 2-2 A framework for pro-environmental consumption

Overview of conceptual framework

The conceptual framework highlights five broad categories of marketing intervention. Three are well established in literature: communications/advertisements, price and packaging. Two are promising approaches where the literature is generally more recent: co-creation and social environment.

These interventions influence behaviour through a number of mechanisms. The most prominent mechanism in the literature is attitude change, addressed in 34 of the 80 studies in the review sample. Much of this work is underpinned by rational choice theories such as the Theory of Planned Behaviour (Ajzen, 1991). While attitude change through information-based communications can influence consumer behaviour, the literature acknowledges a substantial attitude-behaviour gap (Darley et al., 2010) where although individuals state that they care about being sustainable, many do not demonstrate this in their actual behaviour choices (Papista and Krystallis, 2013). More recently, research has explored other mechanisms to influence pro-environmental behaviour, namely goal activation, normative conduct activation, emotions and peer influence. The first of these mechanisms, goal activation motivates self-regulatory behaviour through an individual's desire to steer thoughts and behaviour in order to achieve a goal (Higgins et al., 1997). The second mechanism involves activating normative conduct and has been successfully used to motivate a number of environmental behaviours through focusing on the influence of social norms (Steg and Vlek, 2009), whether they be injunctive, referring to how much the behaviour will be approved or disapproved of by others, or descriptive, referring to the how common the behaviour is. The third mechanism, emotions, relates to a consumer's desire to reach and maintain positive emotions and avoid negative ones. The fourth mechanism, peer

influence, relates to the behaviour of an individual being influenced by other people's attitudes or behaviour.

The reviewed literature identifies a number of different environmental behaviour contexts that moderate the influence of the theoretical mechanisms on sustainable behaviour outcomes. Two distinct categories of contextual variables are evident: the market context for the behaviour, and factors relating to the individual consumer.

A number of different environmental behaviour outcomes are addressed in the literature, yet these mainly consist of purchase behaviours. Disposal behaviour, such as recycling, is also addressed in the literature, yet environmental use behaviour is still relatively unexplored. This is surprising, as much of the environmental impact of a product tends to be in the use rather than the purchase phase. Sustainable choices can be reflected across the purchase, use and disposal phases of a product's life-cycle. Another notable bias in the literature is towards the measurement of behavioural intentions rather than behaviours themselves: 70 of the 80 studies concern intentions as the dependent variable.

We next work our way through the CIMO framework discussing the outcomes, mechanisms, interventions and contexts that have been identified in the literature. We develop a set of propositions linking the mechanisms that underpin marketing interventions to their effects on the outcomes of sustainable purchase, use and disposal behaviour. For each mechanism we summarise prior research, develop testable propositions and identify theoretical relationships that might be addressed in future research.

Pro-environmental behaviour outcomes

Causal relationships between marketing communication interventions and sustainable behaviour outcomes are complex. Existing research has typically applied linear models to explain antecedents of sustainable behaviours. These studies link different interventions to more than one outcome; however, it is difficult to discern clear relationships. This empirical research mainly uses self-report measures to measure behaviour intentions (Steg and Vlek, 2009), which does not always lead to high predictive validity. Only ten of the reviewed studies measured actual behaviour outcomes, and only one measured purchase (Hans and Bohm, 2013), one measured use (Goldstein et al., 2008) and two measured disposal outcomes (Brown et al. 2010; Huffman et al., 2014). Conversely, almost half of the papers (thirty-eight studies) addressed purchase intentions, twelve focused on use intentions (e.g. Lin and Chang, 2012) and 16 on disposal intentions (e.g. Pieters et al., 1998). Three of the studies looked at willingness to engage in a sustainable behaviour, for example willingness to volunteer time or willingness to pay for a sustainable alternative (Pagiaslis and Krontalis, 2014). There were few studies that used experimental design to test the underpinning theoretical mechanisms of the marketing intervention–behaviour outcome relationship, most studies used self-report surveys. Furthermore, the vast majority of studies were conducted at one point in time without regards to differences in time, with just one study identified in the review being a longitudinal study (Scott, 1977).

Mechanisms of consumer behaviour change

Five key mechanisms were identified from the literature that influences pro-environmental behavioural outcomes (see Table 2-3 in the Appendix): attitude change, goal activation, norm activation, peer influence and emotions. Each mechanism is now briefly reviewed.

Attitude change

The vast majority of previous studies have focused on changing the attitudes of individuals with the objective of influencing behaviour change via individual perceptions. Our study confirms this emphasis with 44% (38 out of 87) of reviewed studies utilising the attitude change mechanism. As with much research in the marketing domain, studies that aim at changing sustainable attitudes tend to focus on forming positive beliefs and attitudes towards the behaviour (Obermiller, 1995; Chan, 1998; Best and Mayerl, 2003; Tanner and Cast, 2003; Kim and Choi, 2005; Keraklas et al., 2014) or attitudes towards the brand (Tucker et al., 2012; Matthes et al., 2014). Underlying the attitude change mechanism are rational choice theories exemplified by the Theory of Planned Behaviour (Ajzen, 1991) that state that behavioural intentions can be predicted by behavioural beliefs (i.e. attitude towards the behaviour), normative beliefs (i.e. perceptions of the beliefs held by significant others), and control beliefs (i.e. the individuals' perceived control over the behaviour).

Values (Thøgersen, 1999; Lin and Huang, 2012) and beliefs (Bang et al., 2000; Tanner and Kast, 2010; Pagiaslis and Krontalis, 2014) towards the environment influence pro-environmental attitudes and behaviour (Thøgersen, 1999; Lin and Huang, 2012), more so in some cases than social norms (Pieters et al., 1998). To successfully persuade individuals to behave environmentally, their values and beliefs towards a particular

environmental behaviour must first be understood to then inform the development of successful marketing interventions (Brown et al., 2010). Behavioural beliefs can influence attitudes towards a behaviour, which constitute the underlying determinants of behavioural control.

Perceived consumer effectiveness, a behavioural control belief, has been covered in much of the reviewed literature as being important in regulating sustainable consumption as it refers to how effective an individual perceives their actions to be in solving an issue (Thøgersen, 1999; Kim and Choi, 2005; Akehurst et al., 2012; Kang et al., 2013; Vicente-Molina et al., 2013). Individuals with higher perceived consumer effectiveness towards being able to solve an issue through their consumption choices are more likely to engage in environmental purchase behaviours (Kim and Choi, 2005; White et al., 2011). This knowledge has successfully been applied to a number of sustainability behaviours including creating positive evaluations of pro-environmental products to influence purchase intentions (Tucker et al., 2012). However, a limitation of these studies is that they all focus on the direct impact of perceived consumer effectiveness on pro-environmental behaviour outcomes, not the ways in which perceived consumer effectiveness can be increased.

A recent study by Antonetti and Maklan (2014b) indicated that where a marketing communication intervention succeeded in eliciting feelings of anticipated pride and guilt, it could influence perceived consumer effectiveness, which mediated the relationship between these emotions and ethical purchase intentions. Further research is required to see if these findings are generalisable to other behavioural outcomes and to explore other antecedents of perceived consumer effectiveness for influencing pro-environmental consumption. From this overview, we propose:

Proposition 1: Increases in perceptions of perceived consumer effectiveness have a positive influence on pro-environmental consumption choices (from purchase through to the use and disposal of products); marketing interventions can be deployed to reinforce levels of perceived consumer effectiveness and thus enhance pro-environmental consumption choices

An individual's perception of control over their own behaviour is not necessarily consistent across every context (Cleveland et al., 2012). It is also not clear to what extent attitudes specific to one environmental context will transfer across a number of contexts. Those aiming to change consumer behaviour via the attitude change mechanism need to recognise that it is not a cure-all. Relatedly, the connection between perceived behavioural control and *perceived* barriers to pro-environmental behaviours, as opposed to *actual* constraints is an area that requires further research. Understanding the perceived barriers that individuals associate with different pro-environmental behaviours is important to ensure consumers perceive pro-environmental activities as convenient, accessible and not more of an effort to behave than the non-environmental alternatives (Dahab et al., 1995; Bhate and Lawler, 1997; Tanner and Kast, 2010).

Marketing communication appeals for attitude change tend to focus on the attributes of the product with the aim of creating perceptions of high quality and performance to reduce perceived trade-offs associated with environmental alternatives (Luchs et al., 2010; Lin and Chang, 2012; Olsen, 2013; Meise et al., 2014). The effectiveness of these communication interventions for influencing attitude change and subsequent behaviour is moderated by the product category (Luchs et al., 2010, Kong and Zhang, 2012). Consumer perceptions impact on how a product is used, for example an

environmentally-friendly detergent may be perceived as less affective, which may lead to individuals applying more of it per usage encounter than a regular product (Lin and Chang, 2012). This over-use of the product may in some instances cancel out any environmental benefit of purchasing the environmental product. On the basis of these observations, we propose the following:

Proposition 2: Increase in perceptions of product effectiveness will have a positive influence on the use stage of the environmentally-friendly product, such that high product performance perceptions will increase pro-environmental behaviour through reduced over-use and improved maintenance care for the product; marketing interventions can be deployed to reinforce levels of perceived product effectiveness and thus enhance pro-environmental consumption choices.

Goal activation

Goal activation motivates goal congruency behaviour, which has been successfully linked to actual sustainable behaviour outcomes, specifically when linked with informational interventions (Goldstein et al., 2008). The findings from the studies that addressed goal activation mechanisms proved promising for motivating sustainable behaviour, yet goal activation theories are still relatively under-represented within the sustainable behaviour literature, with just 11% (10 out of 87) of reviewed papers utilising goal activation mechanisms.

In a sustainability context, studies have successfully activated goals through message appeals in advertisements (Carrus et al., 2008; Hu et al., 2012; Keraklas et al., 2012; Newman et al., 2012) and informational interventions (White et al., 2011; Melnyk et

al., 2013). For example, willingness to support a pro-environmental cause can be achieved through message appeals framed to motivate people to pursue their goals of wanting to make a difference (Urien and Kilbourne, 2011; Minton et al., 2012). In an environmental product context, Tate et al. (2014) found that exposure to pro-environmental messages can prime an environmental protection goal, which in turn leads to positive evaluations of environmental products and subsequent purchase intentions. These findings suggest that marketing interventions can motivate more environmental consumption choices by encouraging consumers to evaluate available goals regarding environmental sustainability positively (Tate et al., 2014). Thus:

Proposition 3: Marketing interventions can prime environmental sustainability as an aspirational goal, and thus increase positive evaluations of pro-environmental behaviours and behaviour intentions.

The most commonly used goal pursuit theory, regulatory focus, is the process of guiding thoughts, behaviours, and feelings to reach one's goals. This is motivated by the pursuit of positive outcomes (promotion focus), or the avoidance of negative consequences (prevention focus), depending on the individuals' regulatory focus. Therefore, regulatory focus can be activated by marketing interventions when message appeals are congruent with an individual's self-regulatory goals.

Kareklas et al., (2012) suggest that regulatory focus is moderated by an individuals' self-view, whether it be independent (self-focused) or interdependent (others-focused). These authors found that when an environmental benefit is communicated, prevention-focused appeals can motivate goal compatibility behaviour for individuals with an independent self-view, where interdependent self-view individuals respond better to

prevention appeals. When using a health related appeal, however, these authors found different results. For a health-related behavioural context, promotion-framed messages were more persuasive for individuals with an independent self-view and prevention messages were more persuasive for individuals with an interdependent self-view (Kareklas et al., 2012). This suggests that the success of regulatory focus mechanisms may be moderated by the behaviour category and whether the benefit is to the individual or to the environment. Therefore, we propose the following:

Proposition 4: Marketing interventions with message appeals that are compatible with an individual's self-view can prime regulatory focus, which in turn motivates goal congruent behaviour. This effect is moderated by the behavioural category, where behaviours that directly affect the individual (e.g. health related) may have different effects than behaviours that are not perceived as directly relevant to the individual (e.g. environmental related).

Another established goal activation theory is that of standard discrepancies. This can lead to affective, cognitive and behavioural changes through the desire to reduce discrepancy and negative emotions (Higgins et al., 1986, 1987; Duval and Wicklund, 1973; Tangney et al., 1998). Discrepancy theory is well established in psychology literature but within the 80 studies it was only applied once (Peloza et al., 2013). These authors use self-discrepancy theory to examine the impact of self-accountability on ethical purchase intentions. As with self-discrepancy theory, self-accountability was found to successfully motivate behaviour through the regulatory impact of anticipated guilt. An area that has not yet been explored in a pro-environmental behaviour context is the role of positive discrepancies and the regulatory effect of positive emotions such

as pride in motivating sustainable behaviour towards the end goal of meeting a preferred positive state. From this summary, we propose the following:

Proposition 5: Marketing interventions that highlight self-discrepancies and increased self-accountability towards achieving environmentally sustainable goals can motivate environmental behaviour choices. This impact occurs via the regulatory impact of both anticipated pride and guilt, through the end goal of avoiding future negative states and reaching a positive end-state.

Normative conduct activation

A positive link between the activation of social norms and sustainable behaviour is documented in 16 of the 80 reviewed papers (20%). Compared with the social sustainability literature, environmental sustainability studies have not focused as much on social norm mechanisms. Although they have similarities, most of the environmental sustainability literature has focused on values towards the environment. As highlighted in the Theory of Planned Behaviour (Ajzen, 1991), social factors such as subjective norms can predict behaviour through the perceived social pressures to perform or not perform a behaviour. Underpinning these social pressures is the desire to achieve norm compliance, made in reaction to a request. These requests can be made explicitly, such as the foot-in-the-door technique that starts with a small request and then precedes to moderate and large requests over time (Scott, 1977), or implicitly through promotional appeals based on group need and promised recognition (Fisher and Acherman, 1998). These types of descriptive norm messages are believed to be most effective when used in combination with a promotion goal message (Melnik et al., 2013). Goldstein et al., (2008) confirmed this in their study of re-use of hotel towels by guests which found that descriptive norm messages promoting group

behaviour occurring in the immediate behaviour setting were more effective in motivating pro-environmental actual than the broader descriptive norm messages. On the basis of these findings, we propose the following:

Proposition 6: Marketing interventions that apply descriptive norm messaging, thus activating salient environmental goals, can influence responsible use and disposal behaviour of products through the desire to comply with societal norms. This effect can be heightened through an individual receiving recognition that is visible to others in their social environment.

As well as social norms, personal norms concerned with different environmental issues can predict environmental behaviour (Thøgersen, 1999a, 1999b). Personal norms concerning different environmental issues may be rooted in general internal values and in turn may spill over from one environmental behaviour to another (Thøgersen, 1999b). However, the motivational ability of personal norms depends on the type of behaviour (Thøgersen, 2006), therefore the spill-over effect may be moderated by the behaviour category and whether both behaviours are rooted within the same internal values. For example, personal norms related to household recycling and packaging waste are seen as rooted in the same general values, therefore a positive spill-over can be expected from personal norms about recycling to packaging waste prevention; however, the reverse was not found (Thøgersen, 2006). One could hypothesise that this effect was due to the salience of different behaviours. For example, recycling is a salient behaviour and a relatively established norm in society, whereas packaging waste reduction by choosing products with less packaging, for example, is not. Thus, behaviours might not spill-over from less salient environmental behaviours to other, more salient environmental behaviours. Thus, we propose:

Proposition 7: Personal norms concerning salient environmental issues can spill over into other environmental behaviours if they are concerning similar, salient issues that are rooted in the same general values.

Peer influence

Peer influence within pro-environmental behaviour literature is relatively under explored. This is reflected in the reviewed literature, where only 7 out of the 87 studies (8%) addressed this mechanism. These studies highlighted the motivating effect that reference persons can have in motivating consumption choices by individuals learning from the consumption patterns of others (Welsch and Kuhling, 2009, 2010; Huffman et al., 2014). This was mainly addressed within a family context, where adolescent's environmental behaviour can be influenced by the parent's attitudes and behaviour and the dominant norms evident within the family (Grønhoj and Thøgersen, 2009, 2012; Matthies et al., 2012). Pieters et al. (1998) showed that in the context of pro-environmental behaviour between households, an individual's behaviour could be influenced by the behaviour and ability of other households. Both of these examples show the effectiveness of peer-influence, where the behaviour of other individuals can positively influence environmental behaviour. An interesting concept addressed by McDonald, Fielding and Louis (2014) was that of norm conflict, which occurs when the social norms between individuals clash. Norm conflict can be elicited by marketing interventions that encourage an individual to compare the differences in descriptive norms between different groups. The role of peer influence and norm conflict have shown promise for use behaviours, such as conserving water and disposal behaviours, such as recycling, yet it is still to be explored for influencing less salient environmental behaviours, such as purchasing refurbished products, or maintaining products to keep

them in use for longer. This requires further research to explore the role of peer influence for encouraging behaviour across a number of environmental contexts. From the summary of the limited research in this area, we propose:

Proposition 8: Priming norm conflict regarding a number of individual differing social norms towards a pro-environmental behaviour can create norm discrepancies that can positively motivate pro-environmental consumption choices when an environmental sustainability goal is made salient through marketing interventions promoting environmental behaviour.

A concept that has not been fully explored in the sustainability literature is that of social identity. The belief that certain behaviours could lead to an individual becoming a member of a specific social group may motivate behaviour intentions. This is achieved when an individual's behaviour is congruent with the beliefs and values of a specific social group. The only study that has explored this in a sustainability context is that of Champniss et al. (2015). This study found that influencing consumers to see themselves as part of a social group could determine their behavioural choices in an environmentally sustainable context.

While social forces such as peer influence, norm conflict and social identity effects are promising, these are difficult to apply in some marketing contexts such as the online retail environment dominated by the interaction between a customer and a retailer's website, where other shoppers, as well as staff, are not present. More research is needed to explore the effects of these social forces on pro-environmental behaviour outcomes in online marketing environments. In summary, we propose the following:

Proposition 9: Normative pro-environmental messages received via online channels, such as consumer forums, can form social identities towards a pro-environmental brand and encourage pro-environmental behaviour outcomes through message appeals promoting group need and norm compliance.

Emotions

There is a substantial body of literature covering the influence of emotion mechanism for driving behaviour, yet within an environmental behaviour context, it has not been fully explored. Although recent work has successfully extended the Theory of Planned Behaviour (Ajzen, 1991) to include additional variables such as emotions for understanding sustainable behaviour (Moons and De Pelsmacker, 2012), it tends to be limited to positive and negative valence. When presented with a number of pro-environmental communication strategies, those eliciting positive emotions tend to be most favoured by participants (Matthes et al., 2014; Schaffner et al., 2015). These studies shown that marketing communications framing environmental sustainability can evoke positive and negative emotions; however, they do not explain specific emotions or subsequent behaviours. The limited studies that have addressed specific emotions for driving environmental behaviour elicit far more interesting results. For example, Chang (2013) focused on guilt appeals and found that, contrary to previous arguments that suggest explicit guilt appeals motivate behaviour, guilt appeals are not more effective than using non-guilt appeals for influencing environmental behaviour. Similarly, a study by Chen (2016) found that low-fear appeals are more effective than high-fear appeals for motivating environmental behaviour. These findings suggest that explicit fear or guilt appeals are not more effective for motivating environmental behaviour outcomes than less explicit appeals. Thus,

Proposition 10: Marketing interventions will negatively influence pro-environmental behaviour choices when using explicit guilt and fear appeals as opposed to low or non-fear or guilt appeals, for an environmental behaviour context.

Self-conscious emotions have been documented as being able to motivate behaviour, more so than basic emotions, because they attribute the cause of the emotion to the self (Tracy and Robins, 2004). Traditional psychology literature assumes that negative emotions motivate behaviour, for example in the discrepancy literature. Negative self-conscious emotions such as guilt are elicited when an individual attributes failure to an “internal, unstable, and controllable cause, such as effort” (Tracy and Robins, 2006, p1348).

Three typologies of guilt exist within consumer research: anticipatory guilt, reactive guilt and existential guilt. The main typology that has been looked at in an environmental context is anticipatory guilt. This type of guilt is experienced when contemplating the outcome of a behaviour as not achieving a personal standard. Reactive guilt is experienced after a behaviour has happened, as a consequence to the realization of not behaving in line with a personal standard. Existential guilt on the other hand, is not linked to personal achievements or failures; it is a combination of the appraisal and attribution of guilt.

The role of anticipated guilt has successfully motivated a number of sustainability related behaviours through the desire to avoid feelings of guilt associated with not choosing a sustainable alternative (Steenhaut and Van Kenhove, 2006; Carrus et al., 2008; Elgaaied 2012; Chang and Pham, 2013; Peloza et al., 2013; Antonetti and Baines, 2015). There is an argument that positive emotions are stronger than negative

ones when purchasing sustainable products (Gutierrez and Seva, 2016). Like guilt, pride is a self-conscious emotion elicited when an individual evaluates an event as relevant to their self for achieving their goals (Tracy and Robins, 2007). As a result, feelings of pride can motivate consumers to want to carry on achieving their goals and the feelings of pride associated with the behaviour (Peter and Honea, 2012). The potential of anticipated pride for motivating sustainable consumption behaviours is still relatively unknown in an environmental behaviour context. Only recently has it been applied to sustainable consumption choices such as ethical purchase intentions (Harth et al., 2013; Antonetti and Maklan, 2014a, 2014b).

Proposition 11: Anticipated pride and guilt play a complementary role in influencing pro-environmental behaviour, occurring through a consumer's desire to maintain feelings of pride and avoid feelings of guilt related to future behaviour intentions.

Recent research has shown promise for the inclusion of both anticipated pride and guilt for influencing sustainable purchase intentions (Onwezen et al., 2013, 2014; Antonetti and Maklan, 2014a, 2014b). However, much of the literature exploring these emotions focuses on behaviour intentions, rather than actual behaviour outcomes. Furthermore, these studies do not explore the antecedents of pride and guilt, therefore little is known about how to elicit such emotions for influencing pro-environmental consumption choices. A promising study by Antonetti and Maklan (2014a, 2014b) showed that anticipated pride and guilt could be activated after a purchase scenario to influence future consumption choices, yet it is not known if this is generalizable to other environmental behaviour outcomes. Thus, we propose the following:

Proposition 12: Priming emotional appraisals of pride and guilt from a past environment-related event can positively influence pro-environmental behaviour outcomes, mediated by anticipated pride and guilt about the outcome of future pro-environmental behaviour choices. This relationship will be moderated by past experiences of the behaviour and whether it was positive or negative.

Marketing Interventions

We now review the four marketing interventions identified from the literature (see Table 2-3 in the Appendix): communication/advertisement, price, packaging and co-creation.

Communication/Advertisement

The vast majority of studies in the reviewed literature have focused on communication or advertisement interventions for influencing pro-environmental behaviour. This study confirms this emphasis with 89% (77 out of 87) of the reviewed papers utilising communication/advertisement interventions. As with much research in the marketing domain, persuasive message appeals have been successfully applied to changing pro-environmental behaviour. These message appeals tend to be differentiated into those that use a self-benefit appeal, an environmental benefit appeal or a normative appeal (Steg and Vlek (2009). Considering the design and appearance of how knowledge is presented about environmental products and services can also positively influence consumer purchase decisions (Lin and Huang, 2012). Studies by Newman et al. (2012) and Hartmann and Apaolaza-Ibáñez (2009, 2010) successfully manipulated the stimuli used in print advertisements used to carry an environmental message appeal and both found that the type of visual stimuli used was important for effecting responses to the

advert. The attitudinal effect of virtual nature experiences may be more effective than imagery of urban environments (Hartmann and Apaolaza-Ibanez, 2009, 2010); however, studies exploring the role of visual stimuli on environmental behaviour are limited and do not look at the effect on actual behaviour outcomes. Therefore, future research is required to identify what role, if any, visual stimuli have in influencing actual pro-environmental behaviour outcomes.

The link between specific communication/advertisement appeals and pro-environmental behaviour intentions are not always consistent, making it difficult to discern clear relationships across different environmental contexts. The amount of effort an advertisement appears to show from the firm affects the way consumers respond to it, for example using high-effort claims can lead to motivated processing by consumers that results in them questioning the believability of the ad and the environmental claim, resulting in negative evaluations of the product (Chang, 2011). In three of the studies, a link was found between communication interventions and actual behaviour outcomes with different underpinning mechanisms (Goldstein et al., 2008; Brown et al., 2010; Hanss and Bohm, 2013). One study stimulated commitment to pick up litter through goal activation message appeals, another used an attitude change mechanism to promote actual purchases of environmental products (Hanss and Bohm, 2013) and the other study encouraged the reuse of hotel towels through norm activation message appeals (Goldstein et al., 2008). Although field studies testing actual outcomes are limited, these findings provide a good first step for marketing practitioners wanting to encourage pro-environmental behaviour. Overall, different pro-environmental behaviours are a key outcome affected by communication/advertisement interventions, yet more research is needed to see if these

effects are generalizable for a number of actual behaviours rather than behaviour intentions. From this summary, we propose the following:

Proposition 13: Marketing communications can positively influence actual environmental behaviour outcomes, when they are providing information on how consumers can mitigate related environmental issues through their behaviour choices.

Price

Price plays an important role in the purchase phase of a product and can influence the effectiveness of marketing interventions promoting pro-environmental behaviour. For example, some consumers are more price driven and others are more responsive to specific appeals (Hoek et al., 2012), therefore consumers will make different price/benefit trade-offs depending on how price sensitive they are (D'Souza et al., 2006). In general, consumers tend to perceive products marketed as environmental to be more costly, which can reduce intentions to purchase these products (Royne et al., 2012). Even so, Meise et al. (2014) found that consumers will choose more value differentiating environmental products, even if the price is higher, when marketing communications provide full information on all of the sustainability related product attributes, which reduces price/benefit trade-offs. Relatedly, consumer perceptions of environmental products can be influenced by price endings. Specifically, .00 price endings, which, although consumers perceive to be more expensive, also relate to perceptions of higher quality (D'Souza et al., 2006).

Traditionally, price stops playing a role once a relationship has been formed between the consumer and the brand. It is not clear to what extent price interventions can lead

to increased consumer-brand relationships across the entire product life cycle. More research is needed on how price interventions influence behaviours across the purchase, use and disposal phases. Especially with recent interest in circular economy business models, such as the leasing, which are shifting consumers to be users of products. For such business models, companies are required to engage with consumers across the entire use phase of a product and provide payment plans for using the product, rather than a one-off cost, that is perceived to be fair and desirable by consumers. From this overview, we propose:

Proposition 14: Decrease in perceptions of cost sensitivity but increase in perceived quality through price interventions will have a positive influence on pro-environmental purchase intentions, while increases in perceptions of low long-term cost and fair pricing will increase perceptions of quality and will have a positive influence on intentions to engage with new environmental business models. The size of the influence will be determined by the actual price difference between the sustainable and non-sustainable options.

Packaging

Packaging has the opportunity of positioning a product in the consumer's mind, being a vehicle of communication and creating brand identity (Silayoi and Speece, 2005; Ampuero and Vila, 2006; Underwood, 2015). Packaging could be the differentiator that environmental products need to attract consumers and encourage them to purchase environmental alternatives. Yet, few studies in the reviewed literature (5 out of 87) explored the role of packaging as a marketing intervention for influencing pro-environmental consumption choices. Like with most marketing studies, the main focus has been on the messaging used in communication interventions to increase preference

for specific products (Ampuero and Vila, 2006). For example, within a pro-environmental context, Tate et al. (2014) looked at message appeals to encourage preference of groceries with no packaging, Koenig-Lewis et al. (2014) assessed the influence of message appeals on preference for water bottles made of organic material, Thøgersen (1999) explored the influence of consumers' propensity to choose environmentally packaged goods and others have looked at trust and preferences towards eco-labels (Thøgersen et al., 2010; Kikuchi-Uehara et al., 2016). As this summary highlights, studies that have addressed preferences for different types of packaging, but have overlooked the potential of packaging as a marketing intervention for influencing environmental product choice.

Outside of the reviewed literature, Ampuero and Vila (2006) and Silayoi and Speece (2005) looked at the role of packaging in the context of perishable consumer goods. Rather than focusing on communications, these authors focused attention on the influence of packaging as part of the product decision-making, and how this can increase overall purchase intentions. Although not yet explored in an environmental context, packaging also has the potential to influence use and disposal behaviours as it provides as opportunity for companies to engage with consumers after the purchase phase. There are often many aspects to packaging, for example there can be the packaging encasing the product, the packaging surrounding the product and the final outside packaging that provides overall protection to the product. All of which pose an opportunity to engage with and communicate to consumers. The BT Home Hub return box is an example of how packaging can influence pro-environmental behaviour, as it enables consumers to easily return their old Home Hub when they receive their new one by simply returning it in the new box. Furthermore, the Home Hub box has been

designed to fit through a postbox, so consumers can package and return their old Home Hub with ease, thus reducing perceived barriers to behave and increasing behavioural control beliefs. More research is required to explore the role of packaging as an intervention for influencing environmental behaviour through its design. From these observations, we propose the following:

Proposition 15: Packaging interventions designed to engage with consumers across the purchase, use and disposal phases can positively influence perceptions of environmental products and guide pro-environmental purchase, use and disposal behaviours.

Co-creation

Markets today are more interconnected than the linear ones of previous years. The role of the consumer is shifting from being at the end of the value chain to being part of creating value through collaboration and co-creation of products and services (Alexander and Jaakkola, 2015). The co-creation of a product's design, through the interaction with consumers, can result in increased purchase decisions towards those products and reinforce the brand in the consumer's mind to encourage repeat purchases (Rundh, 2009). The evolution of technology and increased adoption of the Internet has increased consumer empowerment through new forms of interactions that can facilitate opportunities such as co-creation (Füller et al., 2009; Labrecque, 2014). Relatedly, Labrecque (2014) identified the potential of participation in social media as a means for value creation, produced through co-creation activity interventions. Although this is a relatively new area of research, it shows promise for environmental contexts. As co-creation has not, to our knowledge been explored in an environmental context, further research is required to explore whether co-creation interventions can be

generalizable to environmental purchase, use and disposal behaviours. Thus, we propose:

Proposition 16: Co-creation of environmental products between consumers and brands can positively influence consumers' value perceptions of the product resulting in repeat purchases and encourage environmental use and disposal behaviour.

Contextual factors

We have discussed some of the contextual factors that moderate the impact of specific mechanisms on pro-environmental behaviour outcomes within the previous sections. We now review the key contextual variables that moderate pro-environmental behaviour as identified in the reviewed literature. We synthesise these under individual context or marketing context categories.

Individual context

Environmental concern

A plethora of research has focused on how individual's levels of environmental concern and involvement can influence environmental knowledge, beliefs and behaviour intentions (Diamantopoulos et al., 2003; Kim and Choi, 2005; Polonsky et al., 2012; Minton et al., 2012; Cowan and Kinley, 2014; Pagiaslis and Krontalis, 2014; Choi and Cho, 2015). In turn, this can impact how consumers react to different message appeals (Hu, 2012; Newman et al., 2012). The effects of environmental messages tend to be larger when an individual's level of environmental concern is low (Schuhwerk and Lefkoff-Hagius, 1995; Newman et al., 2012). Specifically, Newman et al. (2012) found that when environmental concern is low, negative framed

prevention focused appeals are more persuasive than non-environmental appeals. Conversely, the attitudes and behaviour of high involvement individuals do not always differ in response to different environmental message appeals (Schuhwerk and Lefkoff-Hagius, 1995). When individuals have low involvement, Bhate (2005) showed that the consumer behaviour setting could play a significant role in influencing environmental behaviour. The study found that exposing individuals to a situation could heighten involvement levels where environmental behaviour is seen as the norm (Bhate, 2005). In general, high involvement individuals will always respond positively to environmental message appeals (Tucker et al., 2012); however, the effectiveness of different message appeals depends on the prior salience of the environmental issue being addressed, regardless of levels of environmental concern or involvement (Obermiller, 1995).

Environmental concern is not a sufficient predictor of behaviour change on its own. Consumers tend to say they are concerned with the environment; however, this is not translated into their purchase decisions, which suggests an attitude-behaviour gap. Mechanisms such as guilt mediate the relationship between environmental concern and behaviour intentions (Elgaaiied, 2012). Grimmer and Woolley (2012) identified that environmental involvement, in terms of levels of environmental affect, moderates the influence of marketing communications on pro-environmental behaviour. Specifically, when an individual's environmental affect is high, an environmental message is more persuasive and when environmental affect is low, a personal benefit message is more persuasive (Grimmer and Woolley, 2012). From this summary, we propose:

Proposition 17: Environmental concern can positively influence pro-environmental behaviour, where the environmental issue related to the

behaviour is salient and when mediated by theoretical mechanisms such as emotions or attitude change.

Attribution of responsibility

Attribution theory refers to how an individual attributes the causality of the consequence of a behaviour; whether it is that of the individual or that of others. Consumer conceptions of responsibility for causing and tackling environmental issues have been shown to influence pro-environmental behaviour outcomes (Follows and Jobber, 1999; Wells et al., 2011; Dagher and Itani, 2014). Conversely, Kalamas et al. (2014) found that an External Locus of Control, whereby environmental responsibility is ascribed to powerful-others, motivates environmental behaviour choices (Kalamas, Cleveland et al., 2014).

Other literature states that consumers see themselves as the cause of environmental outcomes after experiencing guilt or pride (Antonetti and Maklan, 2014b). This is also believed to be how goal activation mechanisms such as discrepancy theories motivate behaviour, through ascribing responsibility to the individual self (Higgins et al., 1987; Tracy and Robins, 2004). Consumers' conceptions of responsibility for the causality of the consequence of a behaviour may differ for various environmental contexts and behaviour outcomes. For example, the responsibility for the consequence of household rubbish may be more easily prescribed to powerful others such as councils, whereas the responsibility of environmental use behaviour, such as how much detergent is used, may be more easily prescribed to the individual self. The relationship between attribution of responsibility and different environmental behaviours is an area that requires further research. From this overview, we propose the following:

Proposition 18: Ascribing attribution to the individual drives behaviour when the underlying mechanism is anticipated emotion or goal congruency. When the behaviour is out of the individuals' control, attribution to powerful others may motivate sustainable attitudes and behaviour.

Self-construal

How an individual defines the self, as either independently of others or interdependently of others, affects environmental attitudes and subsequent behaviour (Kim and Choi, 2005; Cho et al., 2013). Self-construal, in terms of cultural differences, can determine the effectiveness of mechanisms used to underpin marketing interventions. For example, anticipated emotions are more strongly effected by attitudes for people from individualistic cultures and emotions are more social in nature for individuals from collectivistic cultures (Onwezen et al., 2014).

Based on self-construal theory, Karelklas et al., (2014) found that egoistic and altruistic considerations in advertisements predict pro-environmental attitudes and purchase intentions. Specifically, these authors found that advertisements that feature altruistic (environmental benefit) claims and advertisements that feature both an egoistic (personal health benefit) and altruistic claim were more effective in motivating behaviour than ones featuring an egoistic claim (Karelklas et al., 2014). Relatedly, based on self-perception theory, individuals' interpretations of the self as being environmental can be manipulated by asking people to commit to an action. One longitudinal study successfully primed self-view to encourage persistent recycling behaviour, by asking people to place a sign in their window promoting recycling, which lead to persistent behaviour (Scott, 1977). Initial trial seems to be an effective predictor of repeat behaviour as it reduces perceptions of effort associated with

engaging in a pro-environmental behaviour (Dahab et al., 1995). Overall, we propose the following:

Proposition 19: Priming an individual's self-view as being environmentally sustainable through marketing interventions can positively influence long-term environmental behaviour. These interventions need to be tailored to the specific attitudes and cultural background of the consumer, where the focus is independently of others for individualistic cultures or interdependently of others for collectivistic cultures.

Past behaviour

The relationship between environmental attitudes and behaviour intentions is often higher for individuals who have engaged in an environmental behaviour in the past (Knussen, 2004; Welsch and Kuhling, 2009, 2011; Cowan and Kinley, 2014). Past behaviour can be a significant determinant of future behaviour (Carrus et al., 2008) and can influence how quickly consumers adopt marketing interventions such as eco-labels (Thøgersen et al., 2009). The longer an individual has been consuming environmental goods, the greater the likelihood that they will purchase environmental goods in the future (Welsch and Kuhling, 2009). If a consumer has had previous experience engaging in one environmental behaviour, it may cause a spill-over effect whereby individuals are motivated to engage in other environmental behaviours, when both behaviours are rooted in the same environmental values (Thøgersen, 1999). Promisingly for marketing practitioners, Cornelissen et al. (2008) were able to cue past behaviours to be perceived as environmental through informational interventions, which successfully changed consumers' self-perceptions towards being environmentally sustainable and influenced subsequent behaviour intentions. Further

research is needed to understand which mechanisms underpin the effect of marketing interventions priming past behaviour for influencing future behaviour choices. We propose the following:

Proposition 20: Interventions priming environmental goals through encouraging individuals to evaluate a past sustainable behaviour can encourage future environmental behaviour outcomes. Individuals will then use this evaluated state to make judgments that will inform future behaviour choices.

Marketing context

Behaviour setting

Contextual factors, as subjectively perceived by consumers, influence pro-environmental attitudes and behaviour intentions (Ertz et al., 2016). For example, the physical retail environment can determine behaviour by influencing a consumer's perceptions (Baker et al., 1994) and emotions (Babin, 1995; Sherman et al., 1997). Rather than being focused on solely rational evaluations, consumer decisions are sometimes unconscious and influenced by environmental cues (Dijksterhuis et al., 2005).

Within an environmental context, the behaviour setting has influenced how individuals evaluate information and their perspectives about environmental issues (Bhate, 2005; Goldstein et al., 2008; Demarque et al., 2013). Specifically, the behavioural setting influences the persuasiveness of communication interventions, which moderates how consumers consider the consequences of environmental behaviours (Demarque et al., 2013). The impact of the consumer behaviour setting for encouraging environmental behaviour may be influenced by consumers' level of environmental involvement,

where behaviour setting has a more important role for consumers with higher levels of environmental involvement (Bhate, 2005).

The consumer behaviour setting needs to be considered by marketing practitioners when developing interventions, to successfully encourage pro-environmental consumption choices (Grimmer et al., 2016). Previous research suggests that accessibility to ought self-standards can be activated in a public setting through interaction with others (Higgins 1987). Whether the behaviour context is public or private can influence how consumers behave, by effecting how positive they feel about the self (Tangney et al. 1996). Pelozo et al. (2013) showed a public setting could motivate actual behaviour in a field study that encouraged consumers to choose an ethical product. The study found that a group consumption setting could activate levels of self-accountability towards achieving environmentally sustainable self-standards (Pelozo et al., 2013). This successfully motivated behaviour in an ethical purchase context; however, it is not clear to what extent behavioural setting specific to one environmental context will transfer across a number of contexts. Relatedly, further research is needed to understand the role of behavioural setting on online vs offline marketing interventions. Although an online behaviour setting may not be subject to the same social interactions as a physical retail environment, there may still be aspects of the behaviour setting that play a role in motivating online consumer behaviour. From this overview, we propose:

Proposition 21: The behaviour setting can positively influence how consumers perceive themselves, as being accountable for behaving environmentally sustainably, which can positively influence pro-environmental behaviour choices. The influence of specific behavioural settings will be moderated by the

environmental context.

Issue salience

The persuasiveness of advertisement appeals may not be consistent across every environmental context and instead may depend on the prior salience and perceived importance of the issue (Obermiller, 1995; Kronrod et al., 2011). Providing consumers with information about an environmental behaviour and how to mitigate an issue through specific behavioural choices allows consumers to make more informed decisions. This is especially relevant for environmental issues and behaviours that are less salient to consumers and therefore require more explanation of the issue and how it can be mitigated through behavioural choices.

The perceived importance of an issue determines the effectiveness of marketing interventions for motivating environmental behaviour (Kronrod et al., 2012). Specifically, the persuasiveness of assertive language used in marketing interventions depends on the perceived importance of the related issue. For issues that are deemed important by consumers, pushy claims may be effective; however, when the issue importance is uncertain, more suggestive appeals are more effective (Kronrod et al., 2012). Marketing practitioners should carefully assess the perceived issue importance of issues related to specific environmental behaviours to inform the type of language that is used in marketing interventions (Kronrod et al., 2012). Relatedly, the perceived proximity of an issue can influence how consumers respond to different message appeals. For example, a study by Chang and Pham (2013) found that when the proximity of an issue is low, guilt appeals are not more effective than non-guilt appeals for individuals with low environmental concern. Conversely, when issue proximity is

high, guilt appeals promoting environmental behaviour can backfire when an individual's environmental concern is high (Chang and Pham, 2013). We propose:

Proposition 22: Marketing interventions can prime issue importance to positively influence environmental behaviour outcomes when the environmental issue related to the behaviour is made salient.

Product category

Consumers do not behave consistently across different behavioural contexts (Cleveland et al., 2012). Thus, the success of environmental claims used for changing environmental attitudes and behaviour is moderated by the product category. Marketing practitioners need to be aware of the perceptions consumers hold towards specific products, as the use of information sources and decision-making criteria are not consistent across different product categories (McDonald et al., 2009). Marketing interventions need to address the type of benefit consumers most value for specific product categories, which depend on the attributes a product category, has associated with them. For example, products with gentleness attributes, such as washing detergents, are associated with higher product ethicality than products associated with strength related attributes, such as car tires (Luchs et al., 2010). As a result, preferences for environmentally sustainable attributes will be lower for strength-related products, thus influencing the effectiveness of marketing interventions focusing on the environmental benefits of a product.

Products that are perceived as more or less harmful to the environment will influence the effectiveness of specific message appeals on environmental behaviour outcomes. For more-harmful products, such as batteries, environmental message appeals may be

more effective, yet for products perceived as less harmful to the environment, such as cereals, environmental appeals may not be more effective than non-environmental appeals (Kong and Zhang, 2012). Moreover, perceptions of product effectiveness can influence how a product is used. When an environmentally sustainable product is perceived to be less effective than the non-environmental alternative, it can result in consumers increasing the use of the product, which may decrease its overall environmental impact (Lin and Chang, 2012). Discrepancies between high performance expectations and actual product performance can result in negative overall evaluations of a product (Anderson, 1973). Although overstating a product's quality through marketing interventions may lead to more favourable perceptions of the product (Olshavsky and Miller, 1972), this may not be generalizable to an environmental context, where consumers tend to be sceptical towards environmental claims (Shrum et al., 1995; do Paco, and Reis, 2012; Hoek et al., 2012).

The level of scepticism an individual holds towards environmental issues influences attitudes towards environmental advertisements, especially for individuals with higher levels of environmental concern (do Paco and Reis, 2012). Scepticism can lead to ambivalence toward environmental products and subsequently influence intentions to behave pro-environmentally (Chang, 2011). Environmental products tend to be associated with perceived barriers to achieve the specific behaviour, such as time (Tanner and Cast, 2003) and perceived effort (Dehab et al., 1995), which have subsequent negative affects on decision-making. Thus, if marketing messages were to exaggerate the performance and quality of environmental products, it might create too high expectations and result in discrepancies that will negatively influence behaviour intentions. Thus, we propose:

Proposition 23: Marketing interventions designed to positively influence evaluations of environmental products can positively influence behaviour intentions when the product category is associated with high performance attributes.

2.5 Conclusions

There are few guidelines for what theoretical mechanisms underpin specific marketing interventions for encouraging environmental behaviour. This review has helped provide some insight into how marketing interventions can influence pro-environmental behaviour outcomes. Following the CIMO-logic of prescription, a range of different contexts, interventions, mechanisms and outcomes have been identified and categorized. These have been combined to explore their interaction.

This review has a number of implications for marketing theory and practice by identifying a number of research gaps and propositions for pro-environmental marketing activities. The inclusion of theoretical mechanisms in the pro-environmental marketing literature is not consistent. Further examination is required into how different intervention strategies influence pro-environmental behaviour outcomes, and the underlying mechanisms driving these relationships.

The conceptual framework developed from this research provides a systematic review of how marketing managers can influence sustainable behaviour by considering the marketing interventions that influence different behaviour outcomes and the underpinning theory-based mechanisms. Marketing practitioners need to be deliberate and specific about selecting marketing communications for the behaviour context and audience they are addressing. This framework provides a common method to assess

the outcome of different marketing efforts, and inform where best to allocate resources for future pro-environmental marketing interventions.

The key consumer behaviours of this framework reflect the purchase, use and disposal of products and are applicable for a variety of environmental behaviour contexts. The conceptual framework has informed a set of propositions regarding how theoretical mechanisms underpin the marketing intervention-behaviour outcome relationship and provides a basis for further research.

2.5.1 Future research

This section outlines areas for further research, in addition to the propositions, to help develop our understanding of how marketing interventions can influence pro-environmental behaviour, categorized using the CIMO-logic framework (Table 2-2).

Understanding the impact of different contextual factors

Although we have covered a number of ways to influence sustainable behaviour, more empirical studies are needed to understand the effects that different individual contexts and marketing contexts have in moderating sustainable behaviour outcomes. The reviewed literature has addressed a number of mechanisms; however, it is not clear to what extent the effectiveness of these mechanisms are generalizable across different product categories. There is much work to be done to understand how these mechanisms interact across different behavioural contexts. In addition, practitioners need to understand how the context in which consumers receive marketing interventions influences the effectiveness of specific mechanisms on sustainable behaviour.

Rather than focusing on a single behaviour category or one marketing context, research is required that looks at multiple contexts and investigate how these interact with each other. There has been a large body of work exploring the effects of individuals' attitudinal individual contexts on sustainable behaviour choices, for example environmental concern, yet there is limited evidence on the potential of other, non-attitudinal individual contexts, such as past experiences of sustainable behaviour.

Although research has suggested a significant correlation between past behaviour and future behaviour intentions (Carrus et al., 2008), there has been no attempt to explore the mechanisms by which this occurs. Understanding the mechanisms that mediate the effect of different contextual factors on sustainable behaviour outcomes is an important area for future research.

Analysis of the influence of specific marketing interventions

Although attitudinal mechanisms have been successful in explaining sustainable behaviour, there has been no attempt to identify how to influence these, such as levels of perceived consumer effectiveness (Antonetti and Maklan, 2014b). Understanding what causes specific mechanisms to influence sustainable behaviour outcomes is an important area for future research. In addition, although we have considered the ways in which individual marketing interventions affect distinct sustainable behaviour outcomes, there is much work to be done on additional interventions that have not yet been fully explored for influencing specific behaviour. As outlined in the previous sections, studies have mainly explored the influence of communication/advertisement interventions for influencing sustainable purchase intentions.

Table 2-2-2 Research directions for pro-environmental consumption

Topic	Important research question
Context	<p>How do different product categories influence the effectiveness of specific marketing interventions and mechanisms on sustainable behaviour?</p> <p>To what extent does behaviour setting specific to one environmental context transfer across a number of contexts?</p> <p>Can the consumer behaviour setting influence online pro-environmental consumption choices?</p> <p>Under what circumstances does attribution of responsibility influence environmental behaviour choices?</p> <p>Do consumer's past experiences of sustainable products reinforce positive emotions over time to encourage sustainable use behaviour?</p>
Interventions	<p>What are the additional marketing interventions not yet explored in a sustainable behaviour context for influencing specific behavioural outcomes?</p> <p>How can marketing interventions interact to influence sustainable behaviour outcomes over time?</p> <p>Do price interventions have a role to play in motivating pro-environmental use and disposal behaviour?</p> <p>How can packaging interventions influence environmental use and disposal behaviour?</p> <p>Can the co-creation of environmental products motivate pro-environmental consumption behaviour?</p>
Mechanisms	<p>What are the antecedents of perceived consumer effectiveness for influencing pro-environmental behaviour?</p> <p>What is the connection between perceived behavioural control and <i>perceived</i> barriers to pro-environmental behaviours, as opposed to <i>actual</i> constraints?</p> <p>What is the effect of social identity on pro-environmental behaviour outcomes?</p> <p>Can positive discrepancies motivate environmental consumption choices?</p> <p>Can anticipated pride as well as guilt influence pro-environmental use and disposal behaviour?</p> <p>What are the antecedents of anticipated pride and guilt for influencing pro-environmental behaviour?</p> <p>Can other typologies of pride and guilt motivate pro-environmental behaviour?</p>

Cont.

Topic	Important research question
Outcomes	<p>What specific interventions and mechanisms drive actual behaviour outcomes?</p> <p>How do purchase, use and disposal behaviour influence one another over time?</p> <p>Can environmental behaviours spill-over to influence other environmental behaviour outcomes?</p>

The relevance of specific marketing interventions for influencing not just purchasing behaviour, but also sustainable use and disposal behaviour, is not clear. Future research might explore which marketing interventions are most effective for motivating sustainable consumption choices at different points of the consumer journey. In addition, work is needed to understand how different marketing interventions interact at different stages of the user journey for driving specific sustainable behaviour outcomes over time.

Further understanding of additional behaviour change mechanisms

Additional research is needed to understand additional mechanisms that might influence sustainable behaviour outcomes. We have discussed the key mechanisms that have been explored within the sustainable behaviour literature, yet we believe that there could be additional mechanisms that have not yet been explored in a sustainable behaviour context. For example, we in this review of literature we highlighted a promising area of psychology literature, self-discrepancy theory (Higgins, 1987) that has only recently been applied to a sustainability context (Peloza et al., 2013). Further research should examine the manner in which self-discrepancies can motivate sustainable behaviour and further this research by exploring the influence of positive discrepancies as well as negative ones.

Although the role of positive and negative emotions is well documented, there is more work to be done for understanding the distinct role of pride and guilt for motivating sustainable behaviour. Future research could explore ways of eliciting feelings of pride and guilt for influencing sustainable behaviour, such as the influence of past emotional appraisals for influencing anticipated feelings of pride and guilt. In addition, research might explore the role of pride and guilt for influencing not only sustainable purchase behaviour but also sustainable use and disposal behaviour.

Prior research has highlighted the motivating effect of perceived consumer effectiveness on sustainable behaviour choice. Understanding the distinct drivers of perceived consumer effectiveness for influencing sustainable behaviour is an important area for future research.

Identifying effects for distinct sustainable outcomes

Finally, research is needed to understand how to influence actual sustainable behaviour outcomes. Although we have identified studies that have addressed purchase, use and disposal behaviour outcomes, there is still much work to be done to understand how specific interventions and mechanisms influence these behaviours and how they might interact. Empirical studies are required to understand what specific interventions and theoretical mechanisms are required for influencing actual behaviour outcomes, rather than relying on self-report measures of behaviour intentions. In addition, future research might examine the manner in which purchase, use and disposal behaviours might influence each other over time and whether environmental behaviours in one context can spill-over to influence environmental behaviours in other contexts.

Final thoughts

Overall, interest in marketing for sustainable behaviour change is growing; however, there is little research integrating the research in this area. This paper sought to synthesise the literature to devise a framework and associated propositions to integrate the existing research and help guide future research in the area of pro-environmental marketing.

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- *Papers included in systematic review

2.7 Appendix

Table 2-2-3 Mechanisms identified in the literature

Literature	Mechanisms
<i>Attitude change</i>	
Dahab, Gentry and Su, 1995	Perceived effort is an important attitudinal variable for environmental decision-making.
Obermiller, 1995	The influence of communication appeals focusing on the importance of an environmental issue depends on the relative salience of the issue.
Schuhwerk and Lefkoff-Hagius, 1995	Consumers with low environmental involvement are more persuaded by green appeals emphasising environmental attributes, than non-green appeals emphasising cost-saving attributes. However, high involvement consumers do not differ in their attitudes and purchase intentions between appeals.
Shrum et al., 1995	Pro-environmental consumers tend to be sceptical of environmental advertisements. Marketers should take care not to alienate consumers through misleading messages.
Chan, 1998	Attitudes predict behaviour intentions, followed by behavioural control and social norms. Mass communication can influence the establishment of subjective norms.
Follows and Jobber, 1999	Perceived individual consequences of consumption choices predict behaviour intentions.

Literature	Mechanisms
<i>Attitude change (cont.)</i>	
Diamantopoulos et al., 2003	An accurate profile of the green consumer cannot be constructed without attention to all aspects of the environmental consciousness construct.
Tanner and Cast, 2003	Positive attitudes influence pro-environmental behaviour. Perceived time barriers negatively affect pro-environmental behaviour.
Knussen, 2004	Past recycling behaviour significantly influences behaviour, specifically for those with no perceived habit of (recycling) behaviour. Attitude-behaviour intention is higher for those who have recycled more in the past. Attitudes and perceived behavioural control but not subjective norms significantly influence behaviour.
D'Souza, et al., 2006	There is a relationship between price sensitivity and consumers responding to environmental labels, specifically their likelihood to read them.
Hartmann and Apaolaza-Ibáñez, 2009	Informational claims with nature experiences in advertisements increase positive attitudes towards green brands.
McDonald et al., 2009	Decision-making criteria differ for products across different sectors.
Thøgersen et al., 2009	Past experience in using environmental labels and trust in the brand influence how quickly consumers adopt ecolabels.
Bang et al., 2010	Beliefs about salient consequences and attitudes influence paying more for renewable energy.
Brown et al., 2010	Persuasive messages can be developed that are based on the beliefs and attitudes of consumers in a given situation.

Literature	Mechanisms
<i>Attitude change (cont.)</i>	
Bang et al., 2010	Beliefs about salient consequences and attitudes influence willingness to pay more for renewable energy.
Hartmann and Apaolaza-Ibáñez, 2010	Specific natural environments rather than urban scenery, lead to behaviour intentions through an evolutionary psychology mechanism.
Welsch and Kuhling, 2010	Consumers could attain higher well-being by consuming more environmentally friendly whilst also reducing the amount they consumed. The consumption of reference persons influences behaviour intentions, as well as the individual's past environmental consumption behaviour.
Chang, 2011	The amount of effort an advertisement appears to show from the firm affects the way consumers respond to it, for example using high-effort claims can lead to motivated processing by consumers that results in them questioning the believability of the ad and the green claim, resulting in negative evaluations of the product.
White et al., 2011	Highlighting how injustice can be redressed through purchase choices can encourage ethical purchase behaviour.
Cleveland et al., 2012	Internal environmental locus of control predicts environmental behaviours; however, this attitude-behaviour relationship varies considerably across contexts.
do Paco and Reis, 2012	Environmentally concerned consumers are more sceptical towards pro-environmental claims.
Hu, 2012	High and low involvement consumers react differently to environmental adverts. Substantive claims are more effective than associative claims and a self-expressive benefit is more effective than a nature-related benefit in increasing brand attitudes

and behaviour intentions.

Literature	Mechanisms
<i>Attitude change (cont.)</i>	
Kong and Zhang, 2012	The success of environmental claims in advertising is affected by the product category and how harmful it is. For more-harmful products, green appeals are effective; however, for less-harmful products these green appeals are no more effective than non-green appeals.
Kronrod et al., 2012	Perceived importance of environmental issues can be temporally manipulated by showing an environmental video clip. Perceived issue importance then determines how effective persuasive language is in encouraging sustainable behaviour.
Lin and Chang, 2012	Perceptions of product effectiveness determines the amount of product a consumers will use; in the case of environmental products that are perceived as less effective consumers will increase the amount of the product they use.
Lin and Huang, 2012	High environmental concern consumers support green products.
Minton et al., 2012	For all countries (United States, Germany, and South Korea) involvement motives determine behaviour.
Polonsky et al., 2012	Knowledge of an environmental issue influence attitudes and related behaviours.
Royne et al., 2012	Consumers perceive a product marketed as environmental as more costly but do not perceive it as lower quality compared to a product marketed with a personal benefit.
Best and Mayerl, 2013	Values and beliefs influence general attitudes that can then determine specific attitudes.
Hanss and Böhm, 2013	Providing information about how consumers can mitigate environmental problems through their purchase behaviour, leads to heightened purchase intentions.

Literature	Mechanisms
<i>Attitude change (cont.)</i>	
Kang et al., 2013	Consumers' product knowledge, perceived consumer effectiveness and perceived personal relevance significantly affect attitudes, subjective norms and perceived behavioural control, and affect purchase intentions.
Vicente-Molina et al., 2013	Motivation and perceived effectiveness explain environmental behaviour as well as knowledge.
Dagher and Itani, 2014	Perceived seriousness of an environmental issue, perceived responsibility, perceived consumer effectiveness and concern for self-image all influence green purchase behaviour.
Grimmer and Woolley, 2014	Environmental involvement in terms of levels environmental affect moderates the influence of green marketing communications. When environmental affect is high, environmental messages are more effective and when environmental affect is low a personal benefit environmental message is more effective.
Matthes and Wonneberger, 2014	There is a negative relationship between green consumers and advert scepticism; green consumers are less likely to be sceptical of green claims as they find more utility in information in green ads.
Pagiaslis and Krontalis, 2014	Environmental concern influences environmental knowledge, beliefs and behaviour intentions.
Kikuchi-Uehara et al., 2016	Environmental awareness and trust in environmental information effects consumers' preference towards eco-labels.

Literature	Mechanisms
<i>Goal activation</i>	
Scott, 1977	Asking people to place a sign in their window promoting recycling increases persistent behaviour.
Kim and Choi, 2005	Collective values influence beliefs about perceived consumer effectiveness, which in turn influences purchase intentions.
Cornelissen et al., 2008	Marketers can encourage consumers to see themselves as concerned with behaving pro-environmentally by the positive cueing of common ecological behaviours, which in turn leads to environmental products being chosen with higher frequency as well as increased preference for more expensive, environmentally friendly alternatives of common products.
Cho et al., 2013	Horizontal collectivism (emphasising an interdependent equality orientation) and vertical individualism (emphasising an independent hierarchical orientation) are antecedents of perceived consumer effectiveness, which in turn influence environmental attitudes.
Peloza et al., 2013	Self-accountability motivates ethical purchases, mediated by anticipated guilt.
Kalamas et al., 2014	External locus of control, whereby environmental responsibility is ascribed to powerful-others, can encourage pro-environmental behaviour.
Kareklas et al., 2014	Based on self-construal theory, egoistic and altruistic considerations predict consumers' attitudes and purchase intentions. Advertisements that feature an altruistic claim or both egoistic and altruistic appeals are more effective than an advertisement using just an egoistic claim.

Literature	Mechanisms
<i>Goal activation (cont.)</i>	
Tate et al., 2014	Exposure to pro-environmental messages primes environmental protection goal; in turn leads to positive evaluations of environmental products.
Barbarossa and De Pelsmacker, 2016	Green consumers are more likely to be influenced by positive altruistic motives and non-green consumers by negative egocentric motives.
Grimmer et al., 2016	The purchase situation moderates the intention-behaviour relationship.

Literature	Mechanisms
<i>Norm activation</i>	
Fisher and Acherman, 1998	Promotional appeals based on group need and promised recognition can lead to social norm compliance (in the context of volunteer behaviour).
Thøgersen, 1999a	Personal norms about environmental behaviour predict environmental behaviour intentions.
Thøgersen, 1999b	Personal norms concerning different environmental issues are rooted in general internal values.
Bhate, 2005	When consumers have low involvement, consumer behaviour setting can play a significant role in influencing environmental behaviour. Involvement levels can become environmental by exposing consumers to a situation where environmental behaviour is the norm.
Thøgersen, 2006	The motivational ability of personal norms depends on the behaviour.
Goldstein et al., 2008	Message appeals based on descriptive norms of group behaviour, specifically that occur in the immediate setting, lead to behaviour compliance.
Grønhøj and Thøgersen, 2012	Within the family, adolescent's environmental behaviour is influenced by the dominant norms within the family and parents' behaviour.
Demarque et al., 2013	Contextual factors moderate the impact of consideration of future consequences on behaviour intentions when a persuasive communication is used.
Melnik et al., 2013	Descriptive norm messages are more effective when used in combination with a promotion goal message, whereas injunctive norms are not affected by regulatory focus.

Literature	Mechanisms
<i>Norm activation (cont.)</i>	
McDonald et al., 2014	Norm conflict, determined by comparing the difference in descriptive norms of different groups, motivates behaviour.
Ertz et al., 2016	Context factors as subjectively perceived by consumers about aspects of their own life, influence pro-environmental attitudes and behaviour intentions.
Stancu et al., 2016	Injunctive norms and attitudes towards food waste have an impact on behaviour intentions, while moral norms and perceived behavioural control make no significant contribution.

Literature	Mechanisms
<i>Peer influence</i>	
Pieters et al., 1998	Consumer behaviour is influenced by the behaviour and ability of other households.
Grønhøj and Thøgersen, 2009	There are strong correlations between parents and children's values. Within the family, adolescent's environmental behaviour is influenced by the dominant norms within the family and parents' behaviour.
Welsch and Kuhling, 2009	Consumption patterns of a reference person predict consumer's pro-environmental consumption choices. The longer someone has been consuming environmental goods, the greater the likelihood they will purchase environmental products.
Matthies et al., 2012	Parents influence their children's (recycling) behaviour via their own behaviour.
Cowan and Kinley, 2014	Attitudes and social pressures, as well as previous purchases influence environmental purchases.
Huffman et al., 2014	Social influence can moderate the attitude-behaviour intention relationship and provide a sense of controlled self-regulation. Social Influence moderates the relationship between recycling attitudes and self-reported recycling behaviour, but not observed behaviour.
Champniss et al., 2015	Priming social identity with a sustainable social group can encourage consumer behaviour choices.

Literature	Mechanisms
<i>Emotions</i>	
Carrus et al., 2008	Negative anticipated emotions and past behaviour predicts environmental behaviour.
Chang, 2012	Guilt appeals are not more effective than non-guilt appeals when the proximity of an environmental issue is low and guilt appeals can have an adverse effect on motivating environmental behaviour when consumers have high environmental consciousness.
Elgaaied, 2012	Anticipated guilt influences behaviour and mediates the environmental concern - behaviour intention relationship.
Peter and Honea, 2012	Optimism, elicited through advertising appeals, encourages more behaviour change than advertising appeals using informational approaches.
Antonetti and Maklan, 2014a	Anticipated guilt and pride can be activated after a purchase scenario and can influence future consumption choices, even if the purchase is not intentional.
Antonetti and Maklan, 2014b	Experiences of anticipated pride and guilt lead to an increase in perceived consumer effectiveness.
Koenig-Lewis et al., 2014	Rational evaluations of benefits do not influence purchase intentions; however, positive and negative emotions do.

Literature	Mechanisms
<i>Emotions (cont.)</i>	
Matthes et al., 2014	Emotional ads and ads that state both an emotional and functional message affect brand attitudes and are not dependent on environmental involvement.
Onwezen et al., 2013	Anticipated emotion mediates the effect of personal norms on behaviour intentions.
Onwezen et al., 2014	Collectivist and individualist cultures differ in how effective emotions are in influencing behaviour; attitudes affect anticipated emotions more for individuals from an individualistic country.
Schaffner and Demarmels, 2015	When consumers are presented with a number of communication strategies, those using positive emotions to gain awareness are perceived most favourable.
Chen, 2016	Consumers exposed to low-fear appeals exhibit more fearful emotions and behaviour intentions than those exposed to high-fear appeals, elicited from narrative scripts.
Gutierrez and Seva, 2016	Positive emotions are felt more than negative ones when purchasing eco-products.

3. THE BEST I CAN BE: HOW SELF-ACCOUNTABILITY IMPACTS PRODUCT CHOICE IN TECHNOLOGY MEDIATED ENVIRONMENTS

This chapter addresses the thesis's **Objective 2**: to gain an understanding of what causes feelings of anticipated pride and guilt for motivating sustainable purchase choices.

The output of this chapter forms journal paper 2 (accepted for Psychology & Marketing).

3.1 Overview

This chapter corresponds to the second objective of the PhD, for which two field studies were conducted to explore alternative means to encourage sustainable behaviour, via feelings of anticipated pride and guilt. The aim of this chapter was to empirically test a number of conceptual models across two field surveys. These surveys form journal paper 2 and explore the role of self-accountability for encouraging sustainable behaviour outcomes, through feelings of anticipated pride and guilt. The paper also checks on the potential role of perceived consumer effectiveness in this relationship. The contribution of this chapter is depicted in Figure 3-1.

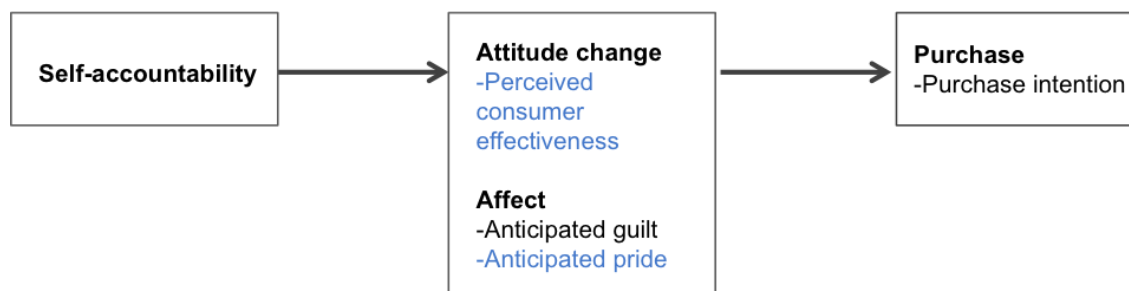


Figure 3-1 Contributions from paper 2 findings

3.2 Abstract

Technology mediated environments are important not only as the location for an increasing proportion of purchases but also as an even more pervasive part of the purchase journey. While most research into online consumer behaviour focuses on attitudes as an antecedent of product choice, this article focuses on an important but hardly-explored variable which may be impacted by technology mediated environments: self-accountability. Laboratory experiments suggest that self-accountability may influence online purchases, but this has not been confirmed in field studies. Furthermore, although this prior work suggests that self-accountability may impact product choice through the elicitation of guilt, the role of positive emotions has not been explored. Using two surveys with online retailers, this paper a) shows that in a technology mediated environment, self-accountability influences product choice; b) proposes and confirms a complementary route for this effect through pride that is stronger than that through guilt; and c) evidences the relationship between self-accountability and perceived consumer effectiveness. These results show a clear opportunity for digital marketers to encourage self-accountability, to thereby elicit pride and not just guilt, and hence to impact consumer decision-making in technology mediated environments, particularly when choices have sustainability implications.

Keywords: Online marketing, Consumer behaviour, Sustainability marketing, Self-accountability, Self-conscious emotion

3.3 Introduction

Technology mediated environments provide marketers with the flexibility to craft the customer experience to produce a desired effect (Yoon, Choi and Sohn, 2008), and provide consumers with the access to numerous product choices, including sustainable ones (Darley, Blankson and Luethge, 2010). The options for offline retailers are dominated by one-way communications through advertising, loyalty programs and point-of-sale promotions, unless they invest heavily in expensive personal service; by contrast, the internet and associated technologies allow marketers to have a low-cost tailored dialogue with consumers to better serve them (Minton et al., 2013). Online market places would therefore seem a promising context for applying the large body of research on how best to communicate with customers in order to elicit sustainability-related behaviours, much of which proposes carefully controlled framing (Akehurst et al., 2012; McFerran et al., 2014) and active consumer engagement (Peloza et al., 2013; Champniss et al., 2015).

Furthermore, online retailing accounts for an ever-increasing proportion of consumer spending (Darley et al., 2010), so it is increasingly important in numerous categories, with \$92.8 billion of US sales at the first quarter of 2016 (US Census Bureau, 2016), an increase of 15.2% from the previous year. Although e-commerce accounts for just 7.8% of total US retail sales, this percentage has been consistently increasing by around 15% per year. The online environment also plays an increasing role in the complete customer journey of searching and shopping for products, irrespective of where the purchase itself is made (Kim and Lennon, 2008). For example, 60% of consumers research online for electrical items and 40% of consumers choose to purchase these online; similarly, 50% of consumers research household appliances

online and 29% have purchased them online (PwC, 2016). In addition, an automotive study by Accenture (2015) found that 37% of consumers said they use online channels to search for information prior to purchasing a vehicle. Online purchases of groceries are no exception, with as many as 48% of UK consumers purchasing groceries online (Intel, 2016).

Technology mediated environments, then, are of particular interest to firms wishing to motivate sustainable consumption. There has been a growing interest in the circular economy and its role in achieving sustainable lifestyles (Ellen MacArthur Foundation, 2013). Examples include the retail of refurbished goods as well as collaborative consumption models such as Airbnb and Zipcar, each of which is underpinned by online platforms in order to match geographically dispersed buyers and sellers and provide them with instantaneous information (Ellen MacArthur Foundation, 2013; Bocken et al., 2014; Richardson, 2015). Yet consumers' attitudes and behaviours around sustainability in an online environment have received surprisingly little specific focus (Darley, Blankson and Luethge, 2010). Research is necessary to better understand how to encourage consumers' sustainable decision-making in an online environment specifically (Minton et al., 2013).

Much academic work on sustainable consumption has focused on the Theory of Planned Behaviour (Ajzen, 1991) and its components and variants. Influencing attitudes through information-based communications can help, but a wide gap has been reported between sustainability-related attitudes and sustainable behaviours (Darley, Blankson and Leuthge, 2010). While social forces such as social identity effects (Champanis et al., 2015) are promising, these are difficult to apply in an online retail environment dominated by the interaction between a customer and a retailer's website,

unlike offline shopping where other shoppers, as well as staff, are generally present. The question arises whether any complementary mechanisms exist for online marketers to tailor customer-firm interactions in order to elicit sustainable choices (Kim and Lennon, 2008; Darley et al., 2010; Argyriou, 2012).

This paper explores the promise of a body of psychological research, namely self-standards and self-discrepancy theory (Higgins et al., 1987), for tackling this challenge of eliciting online sustainable behaviours. This theory understands individuals to have internally held self-standards that guide behaviours. If a discrepancy occurs between one's actual behaviour and an ideal self-standard, individuals will be motivated to act accordingly so as to align them (Higgins et al., 1987). Applications of these concepts have examined the impact of self-discrepancy on task performance (Duval and Lalwani, 1999), affect (Higgins et al., 1986; Higgins et al., 1987; Tangney et al., 1998), and approach vs avoidance behaviour (Higgins et al., 1994), but only in one study by Peloza et al. (2013) to the issue of ethical consumer decision-making. These authors develop a measure for self-accountability, which they define as the extent to which one feels accountable to live up to a personally held self-standard, a definition that is adopted in this article. This concept derived from self-discrepancy theory has the benefit of being measurable. Looking at sustainable products such as fair trade coffee, Peloza et al.(2013) show that self-accountability can be enhanced through dialogue, by asking individuals to recall a previous occasion when they behaved in a way that was not consistent with their moral self-standards.

Consumers are likely to be characterised by different degrees of self-accountability. Furthermore, technology mediated environments may be varying consumers' self-accountability. Examples can be seen in the influence the internet has had in spreading

awareness about marketplace boycotts to influence consumers' purchase decisions (Sen et al., 2001), and in smartphone apps that monitor behaviour to encourage healthy eating and physical activity (Conroy et al., 2014). This raises the question whether consumers' degree of self-accountability in an online environment is affecting consumer behaviour.

This research contributes in several ways to the existing research. First, as Peloza et al. (2013) only field study using non-students did not measure self-accountability directly, the authors of the current paper examine whether this self-accountability effect occurs naturally in the online field and not just the laboratory, through a field survey approach in two contexts, one relating to environmental sustainability and one to social sustainability. Second, the current research extends Peloza et al. (2013) conceptualisation by proposing an alternative route by which self-accountability can affect choice, namely via the positive self-conscious emotion of anticipated pride. This extends recent work which has shown other respects in which pride and not just guilt can impact on sustainable consumer choice (Harth et al., 2013; Onwezen et al., 2013, 2014; Antonetti and Maklan, 2014a, 2014b). Third, this research checks what role if any is played by perceived consumer effectiveness in the impact of self-accountability on consumer choice, as prior studies on emotion have found perceived consumer effectiveness to sometimes play a role (Antonetti and Maklan, 2014b). Fourth, recent work is applied distinguishing two facets of pride, authentic and hubristic pride (Holbrook et al., 2013; Tracy and Robins, 2014; McFerran et al., 2014), to add precision to the role of pride as a mechanism in mediating between self-accountability and consumer choice.

The remainder of the paper is organised as follows: first, it details the conceptual background and presents the research hypotheses. Second, it presents the results of two studies through which these contentions were tested. A discussion of the results follows, together with pointing out the implications of the current work for existing research and for managerial practice. Not least, a discussion is presented of limitations and possibilities for further research.

3.4 Conceptualisation

Origins of self-accountability: Self-standards and self-discrepancy theory

To understand the concept of self-accountability, the bodies of literature around self-standards and self-discrepancy theory are first explained. Self-standards are the self-beliefs that guide an individual's behaviour. They relate to the possible selves that regulate behaviour: the actual self, representing the attributes one possesses; the ideal self, representing the attributes an individual would ideally like to possess; and the ought self, representing the attributes one feels one should possess (Higgins et al., 1987; Duval and Lalwani, 1999). Self-standard discrepancies between the actual self and the ought self lead to negative affect. This awareness of standard discrepancies can lead to affective, cognitive and behavioural changes through the desire to reduce discrepancy and negative emotions (Higgins et al., 1986, 1987; Duval and Wicklund, 1973; Tangney et al., 1998).

Self-discrepancy theory states that different self-discrepancies are related to distinct emotional states (Higgins et al., 1987). Empirical research has concentrated on the self-regulatory impact of negative emotions such as guilt and shame that motivate people to match their actual self to their ideal self or their ought self-attributes, to reach

a preferred state (Boldero and Francis, 1999). This raises the question what role, if any, positive emotions such as pride have in motivating the positive end goal of meeting a preferred state.

In an extensive literature, self-discrepancy has been successfully applied to contexts such as depression and anxiety (Stevens et al., 2014), the influence of self-discrepancy on affect (Higgins et al., 1997), associations with childhood memories (Strauman, 1996), and subjective wellbeing (Hardin and Larsen, 2014). It has only once to the authors knowledge been applied in sustainable behaviour context, namely in the study by Peloza et al. (2013) referenced earlier. These authors use self-discrepancy theory to examine the impact of self-accountability on ethical purchase intentions. Through their manipulation test, these authors found that most consumers hold being socially and environmentally responsible as a personally held self-standard. This supports the basis of the current study that an individual may be motivated to behave in an environmentally or socially sustainable manner if they believe they will be reaching this self-standard.

Self-accountability and negative emotions

Self-standards theory suggests that behaviour is governed by emotion and discrepancy awareness. An individual's sense of accountability towards living up to their self-standards is believed to lead to feelings of anticipated guilt that can motivate sustainable behaviours (Peloza et al., 2013). An earlier study on self-accountability by Passyn and Sujan (2006) relatedly examined the role of negative emotions in influencing self-accountability itself, finding that mixed appeals of fear with guilt or

challenge heightened an individual's self-accountability for the outcome of their behaviour.

Previous research finds that the self-regulatory effect of self-discrepancy theory and self-accountability is mediated by negative emotions. Negative self-conscious emotions such as guilt are elicited when an individual attributes failure to an “internal, unstable, and controllable cause, such as effort” (Tracy and Robins, 2006, p1348). A multitude of research has demonstrated the ability of guilt to guide a variety of decisions (Tangney et al., 1996; 1998; Dahl, Honea and Manchanda, 2005; Basil, Ridgway and Basil, 2006; Hibbert et al., 2007; Carni et al., 2013). More recently, anticipated guilt has been shown to guide ethical purchase decisions when an individual is motivated to avoid feelings of guilt associated with choosing a less ethical option (Steenhaut and Van Kenhove, 2006; Peloza et al., 2013; Antonetti and Maklan, 2014a, 2014b; Onwezen et al., 2013, 2014; Antonetti and Baines, 2015). Nevertheless, anticipated guilt is relatively under-explored in comparison to other facets of guilt such as explicit guilt appeals (O’Keefe, 2002), especially in the sustainability literature. This leads to the hypothesis:

***Hypothesis 1:** Self-accountability has a role in motivating sustainable purchase intentions through anticipated guilt.*

How self-accountability impacts behaviour: Complementary role of pride and guilt

Like guilt, pride is also a self-conscious emotion that result from cognitive appraisals of one's self in the occurrence of an emotion-eliciting event (Tracy and Robins, 2004; 2007). Interest in self-conscious emotions research has grown in the last fifteen years,

especially in the field of marketing (Gaur et al., 2014). This work has extensively explored the regulating role of guilt, but pride has had considerably less attention.

Pride is also an important emotion that can drive prosocial behaviour through the desire to feel positively about one's behaviour (Tracy and Robins, 2007; Tracy et al., 2012). Pride shares with self-discrepancy theory the ability to motivate behaviour through the desire to behave in a way that is congruent with internal self-standards (Tracy and Robins, 2007); however, the potential of pride for motivating behaviour has not been fully explored within self-discrepancy literature. Only recently has pride been applied to sustainable consumption contexts (Harth et al., 2013; Antonetti and Maklan, 2014a; 2014b; Onwezen et al., 2013, 2014). In a similar way to anticipated guilt appraisals, anticipated pride could motivate sustainable purchase decisions through the desire to attain future feelings of pride associated with the sustainable product.

Accordingly, it is proposed that individuals with higher self-accountability will be more motivated to choose sustainable product alternatives, in part due to the anticipation of feeling pride for their purchase choice. Hence, one would expect that the effect of self-accountability on purchase intentions is mediated by the complementary role of both anticipated pride and anticipated guilt.

Based on this, the following two hypotheses are proposed:

Hypothesis 2: *Self-accountability has a role in motivating sustainable purchase intentions through anticipated pride.*

Hypothesis 3: *The role of self-accountability in driving sustainable purchase intentions is due to both anticipated pride and guilt.*

Mediating role of perceived consumer effectiveness

Perceived consumer effectiveness (PCE) is important in regulating sustainable consumption as it refers to how effective an individual perceives their actions to be in solving a (sustainability) issue (Thøgersen, 1999; Kim and Choi, 2005; Akehurst et al., 2012). Individuals with higher PCE are more likely to engage in sustainable purchase behaviours (Kim and Choi, 2005).

It might be expected that PCE is a mediator of self-accountability's impact on purchase intentions because of it functioning with pride and guilt. A recent study by Antonetti and Maklan (2014b) explored the role of pride and guilt on PCE for motivating ethical consumption choices. The study indicated that feelings of pride and guilt can influence PCE and that it mediates the relationship between these emotions and ethical purchase intentions. Self-accountability may be an antecedent of this relationship that could increase the influence of anticipated pride and guilt on levels of PCE to motivate sustainable purchase behaviour. Thus, an individual with a desire to live up to a personal self-standard of being sustainable will be motivated to purchase a sustainable product alternative if they believe their actions will have a positive influence on a sustainability issue. This motivation will be strengthened by feelings of anticipated pride at the thought of purchasing a sustainable product, as well as guilt at not doing so.

On the other hand, PCE might not act as a mediator in higher-involvement contexts such as refurbished white goods, one of the contexts that is studied in the empirical research that follows. High levels of self-accountability may not necessarily translate into higher levels of PCE (Ellen et al., 1991; Obermiller, 1995) even when anticipated

pride and guilt are heightened. Antonetti and Maklan's (2014b) findings are in relation to one consumption context, ethical coffee. That pride and guilt were found to influence PCE in this context does not mean they will do so in another sustainability context (Ellen et al., 1991). Ethical coffee is a low-involvement, high-salience product category with a high frequency of use. Prior adoption and frequency of use are believed to influence the impact of higher levels of PCE on a sustainable behaviour (Block and Keller, 1995). This may be problematic in the context of purchasing refurbished white goods, a high-involvement category which may be low-salience when a repurchase is not immediately approaching. Lack of past engagement and awareness of its environmental benefits may cause the impact of PCE on purchase intentions to be reduced no matter how high levels of self-accountability or feelings of anticipated pride and guilt may be. In order to explore these possibilities, the following hypothesis are tested in two product categories:

Hypothesis 4: PCE fully mediates the relationship between pride and guilt arising from self-accountability and sustainable purchase intentions.

Self-accountability and authentic pride

Tracy and Robins (2007) describe two facets of pride: authentic pride and hubristic pride. Authentic pride relates to feelings of accomplishment and achievement that is focused on one's behaviour, whereas hubristic pride relates to arrogance and superiority that is focused on one's self (Tracy and Robins, 2007; Tracy et al., 2012; McFerran et al., 2014). These distinct facets of pride have been identified in a variety of contexts such as academic success, relationships and athletics (Tracy and Robins, 2007) and the consumption of luxury brands (McFerran et al., 2014). Yet no research

to date exists within the sustainable behaviour literature. Both authentic pride and self-accountability are linked to self-esteem and engagement in life goals; therefore, it can be anticipated that there is a relationship between motivation of living up to a self-standard of being sustainability conscious and experiences of authentic pride. When an individual is more motivated to live up to their internal self-standards (i.e. high self-accountability) they may also have increased feelings of authentic pride at the anticipation of achieving greater life satisfaction. Hubristic pride is described as not being prosocial and being linked to status (Tracy and Robins, 2014); therefore, it is not likely to have a positive influence in encouraging sustainable consumption because of the relatively low penetration of sustainable behaviours in most consumer groups.

Hypothesis 5: Authentic pride mediates the impact of self-accountability on purchase intentions.

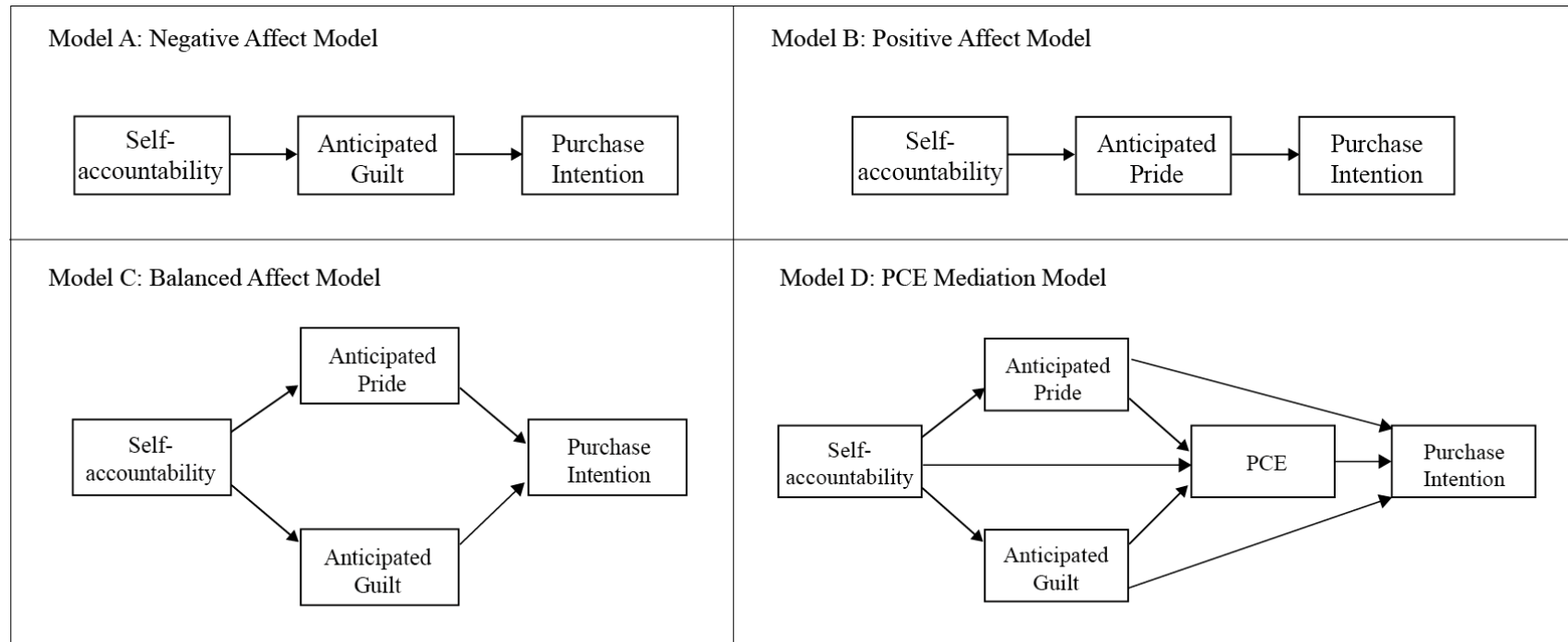


Figure 3-2 Conceptual models – Self-accountability Study 1

Overview of the research

Two studies were conducted that followed the approach proposed by Troilo et al. (2014). Rival models are contrasted across two studies to explore the conceptual arguments and test the developed hypotheses with data gathered through online surveys. The hypothesised structural models are displayed in Figures 3-2 to 3-5.

3.5 Study 1

3.5.1 Research Design, Sample, and Data Collection

As prior work is restricted in the main to laboratory experiments using student samples (Peloza et al., 2013), an online consumer field survey was used, to provide natural variation in self-accountability and maximise ecological validity. The survey used a mock ‘about us’ website page and an advertisement for refurbished white goods, to provide constant information to participants about the brand to reduce model complexity. This product category was selected as: a) an example of environmental sustainability, to test whether self-accountability effects extend beyond the social sustainability context examined by Peloza et al. (2013); and b) an example of a circular economy business model which is underpinned by online platforms. To ensure ecological validity, an existing brand was used that sells remanufactured white goods. The advertisement and ‘about us’ page were developed with the collaboration of the brand owner and a professional agency. The white goods brand is not well known and is a very recent start-up, to control for bias towards (or against) brands that have pre-existing attitudes attached to them, given the study’s primary interest in self-accountability. After showing the ‘about us’ page and online advertisement,

participants were asked a set of questions. See Appendix for the advertisement graphics.

Participants were recruited by an online panel provider in the United Kingdom. The sample of 248 consumers was representative of the UK population in terms of age, gender and education. Data from four participants were removed, as they did not follow directions. The final sample of 244 included 115 males and 129 females with an average age of forty-nine. There were no missing data.

Items using 7-point Likert scales anchored by ‘totally disagree’ and ‘totally agree’ were adapted from previous research. See Table 3-1 for all items. The key dependent measure was category purchase intention (how likely an individual would be to purchase a refurbished white good). Self-accountability was measured following Pelozo et al. (2013), with three items. Anticipated pride and guilt measures were adapted from Roseman (1991), with three items, and Soscia (2007), with two items, and ordered at random. The initial PCE measure consisted of four items adapted from Antonetti and Maklan (2014b); after a reliability test, one item was deleted. With 4 items, Cronbach’s alpha was .635 for PCE; after examination of the inter-item correlation matrix, one item was removed to give an alpha of .709.

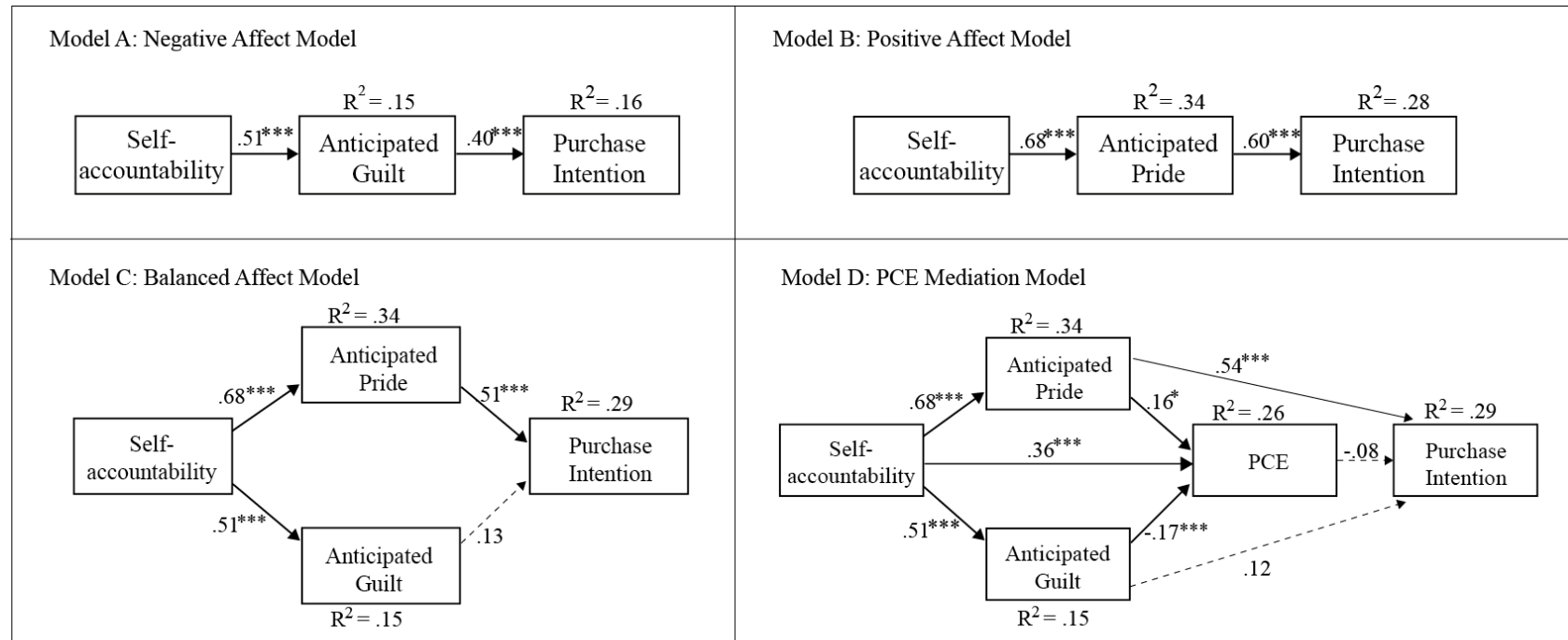
3.5.2 Results and Discussion

Based on analysis of variance (ANOVA), the influence of self-accountability on anticipated guilt ($F=3.694$, $p(1,df<.001)$) and anticipated pride ($F=8.930$, $p(1,df<.001)$) is significant. These findings not only provide field support for the finding of Pelozo et al. (2013) that increased self-accountability leads to increased feelings of guilt, but also shows that self-accountability impacts anticipated pride.

Next, four structural regression models were tested using IBM AMOS 23 software. Structural equation modelling (SEM) was chosen as it allows theoretical development by testing how constructs are linked where there are multiple rival models which are theoretically plausible (Hair et al., 2008; Schreiber et al., 2006). The models were analysed using the maximum likelihood estimation method. Results are graphically summarised in Figure 3-3, and detailed in Tables 3-2 and 3-3.

Table 3-1 Construct reliability and descriptives – Self-accountability Study 1

Construct	Measures	Cronbach's Alpha (Loadings)	Mean (SD)
Self-Accountability		0.93	5.15 (1.35)
	I feel accountable to behave in an ethical manner	(0.89)	4.91 (1.59)
	I am strongly motivated to live up to my own self-standards	(0.97)	5.22 (1.38)
	I feel accountable towards my own self-standards	(0.96)	5.32 (1.36)
Anticipated Guilt		0.925	2.97 (1.77)
	If you were not to purchase a refurbished white good, how intensely would you feel remorse?	(0.97)	2.93 (1.82)
	If you were not to purchase a refurbished white good, how intensely would you feel guilt?	(0.97)	3.00 (1.86)
Anticipated Pride		0.94	4.41 (1.58)
	If you were to purchase a refurbished white good, how intensely would you feel pleased?	(0.93)	4.61 (1.63)
	If you were to purchase a refurbished white good, how intensely would you feel good about yourself?	(0.97)	4.48 (1.63)
	If you were to purchase a refurbished white good, how intensely would you feel pride?	(0.93)	4.14 (1.75)
PCE		0.71	5.17 (1.32)
	It is worthless for the individual consumer to do anything about waste to landfill. (reverse coded)	(0.91)	5.24 (1.78)
	Since one person cannot have any effect upon pollution and natural resource problems, it doesn't make any difference what I do. (reverse coded)	(0.94)	5.06 (1.82)
	Each consumer's behaviour can have a positive effect on society by purchasing products sold by socially responsible companies.	(0.47)	5.20 (1.35)



* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Figure 3-3 Results – Self-accountability Study 1

Table 3-2 Path Coefficients – Self-accountability Study 1

Independent Variable	Dependent variable	Parameter Estimate	Standard Error
Model A:			
Self-accountability	Anticipated Guilt	0.51	0.08 (***)
Anticipated Guilt	Purchase Intention	0.40	0.06 (***)
Model B:			
Self-accountability	Anticipated Pride	0.68	0.06 (***)
Anticipated Pride	Purchase Intention	0.60	0.06 (***)
Model C:			
Self-accountability	Anticipated Pride	0.68	0.06 (***)
Self-accountability	Anticipated Guilt	0.51	0.08 (***)
Anticipated Pride	Purchase Intention	0.51	0.08 (***)
Anticipated Guilt	Purchase Intention	0.13	0.07 (ns)
Model D:			
Self-accountability	Anticipated Pride	0.68	0.06 (***)
Self-accountability	Anticipated Guilt	0.51	0.08 (***)
Anticipated Pride	PCE	0.16	0.06 (*)
Anticipated Guilt	PCE	-0.17	0.04 (***)
Self-accountability	PCE	0.36	0.06 (***)
PCE	Purchase Intention	-0.08	0.09 (ns)
Anticipated Pride	Purchase Intention	0.54	0.08 (***)
Anticipated Guilt	Purchase Intention	0.12	0.07 (ns)

*p<0.05; ** p<0.01; ***<0.001; ns=not significant

Table 3-3 Model goodness-of-fit statistics – Self-accountability Study 1

	Model A	Model B	Model C	Model D
Chi-square (df)	16.48 (df=1)	2.17 (df= 1)	1.85 (df= 1)	3.38 (df= 1)
RMSEA	0.25	0.07	0.06	0.10
CFI	0.84	0.99	1.00	0.99
TLI	0.51	0.98	0.98	0.93

Self-accountability and negative emotions

The negative affect structural model (A) did not have a good fit (Chi-square=16.48, RMSEA=0.25, CFI=0.84, TLI=0.51) even though self-accountability is significant on anticipated guilt ($r^2 = 0.15$) and anticipated guilt is positively significant with purchase intentions ($r^2=0.18$). This model does not account for a very high variance in purchase intentions, supporting the need to look to the additional role of anticipated pride. Thus, H1 received only partial support.

Self-accountability and positive emotions

The anticipated pride model (B) has an improved fit as compared with the anticipated guilt model (Chi-square=2.17, RMSEA=0.07, CFI=0.99, TLI=0.98). The model has a root mean square error of approximation (RMSEA) below 0.08 to show a reasonable fit (Browne and Cudeck, 1992). The fit statistics showed a satisfactory comparative fit index (CFI) and Tucker-Lewis index (TLI) above 0.95 (Bentler, 1990; Hu and Bentler, 1999). Therefore, H2 is supported. Self-accountability is significant on anticipated pride ($r^2=0.34$) and anticipated pride has a significant path to purchase intentions

($r^2=0.28$). Further, the route through pride appears stronger than that through guilt ($r^2=0.28$ in model B, 0.16 in model A).

How self-accountability impacts behaviour: Complementary role of pride and guilt

This research tested a model in which that included anticipated pride and guilt as parallel mediators of the effect of self-accountability on purchase intentions (Model C). A correlation was made between the error terms of pride and guilt to account for any variances between the two. This correlation is conceptually justified due to self-conscious emotions being interdependent. This model also shows a good fit (Chi-square=1.85, RMSEA=0.06, CFI=1.00, TLI= 0.98), yet it did not show much higher variance of purchase intentions ($r^2=0.29$) to that of the anticipated pride model ($r^2=0.28$). Anticipated pride accounts for just over double that of anticipated guilt ($r^2=0.34$ for anticipated pride, $r^2=0.15$ for anticipated guilt).

The inclusion of anticipated pride in the negative affect model caused the parameter estimate of anticipated guilt on purchase intentions to become non-significant ($p=0.06$). Individuals with higher levels of self-accountability are more likely to experience feelings of anticipated pride at the thought of purchasing a remanufactured white good, as well as guilt at the thought of not doing so. While these are naturally correlated, the route to purchase intentions is more significantly evidenced in the case of pride; as with Model A, it may be that prior results emphasising the role of guilt suffer from missing the important variable of pride. Thus, by heightening levels of self-accountability through such techniques as Pelozo et al. (2013) manipulations, marketing managers may be able to drive purchases of environmental products as

much, if not more so, through increased feelings of anticipated pride as by eliciting guilt at failure to act.

A separate variant of the balanced affect Model (C) was tested with an additional path from self-accountability to purchase intention. This was not significant and caused the model fit to decrease (Chi-square= 67.56, RMSEA= 0.52, CFI= 0.77, TLI = -0.40). The direct path from self-accountability to purchase intention was not significant ($p=0.17$) and the variance of purchase intentions did not significantly change ($r^2=0.29$).

Mediating role of perceived consumer effectiveness

The mediating effect of PCE as depicted in Model D had a satisfactory fit (Chi-square= 3.38, RMSEA=0.10, CFI=0.99, TLI=0.93). Both self-accountability and anticipated pride had a positive significant impact on PCE, while anticipated guilt had a negative significant influence on PCE ($r^2=0.26$). Contrary to H4, however, PCE did not have a direct influence on purchase intentions ($p=0.37$) and the variance explained did not change compared to that of the balanced affect model ($r^2=0.29$).

The significant path from self-accountability to PCE shows an association between an individual feeling motivated to live up to a self-standard and believing the outcome of their purchase decision will have a positive impact on the environment. As expected, when anticipated pride increases so does PCE, suggesting that heightening feelings of anticipated pride leads to increased levels of PCE. Conversely, however, anticipated guilt has a negative significant effect on PCE, suggesting that the beliefs an individual holds towards the effectiveness of their behaviour decrease as feelings of anticipated guilt increases. The authors of this paper speculate this might be because anticipated guilt is elicited from an individual considering how they would feel negatively if they

were not to purchase the sustainable product. This may be caused by their decision not to purchase the product, thus the perceived benefit of their behaviour will decrease.

A variant on Model D was also tested in which PCE, pride and guilt are parallel mediators of the influence of self-accountability on purchase intentions. This was not significant (Chi-square= 18.71, RMSEA=0.15, CFI=0.96, TLI=0.85) and is not further reported here. The path from PCE to purchase intentions was not significant ($p=0.35$), and nor was that from anticipated guilt to purchase intentions ($p=0.08$). The overall explanation for the variance of purchase intentions did not change ($r^2=0.29$). The post-hoc modifications were not conducted for PCE.

3.6 Study 2

Study 2 builds on Study 1 by replicating the observed effects in another context, involving social rather than environmental sustainability. Furthermore, given the clear role of pride in Study 1, Study 2 aims to further explore the significant impact anticipated pride has in mediating the influence of self-accountability on sustainable purchase intentions. Specifically, this paper tested for whether the results still hold with a specific form of pride discussed earlier, namely authentic pride.

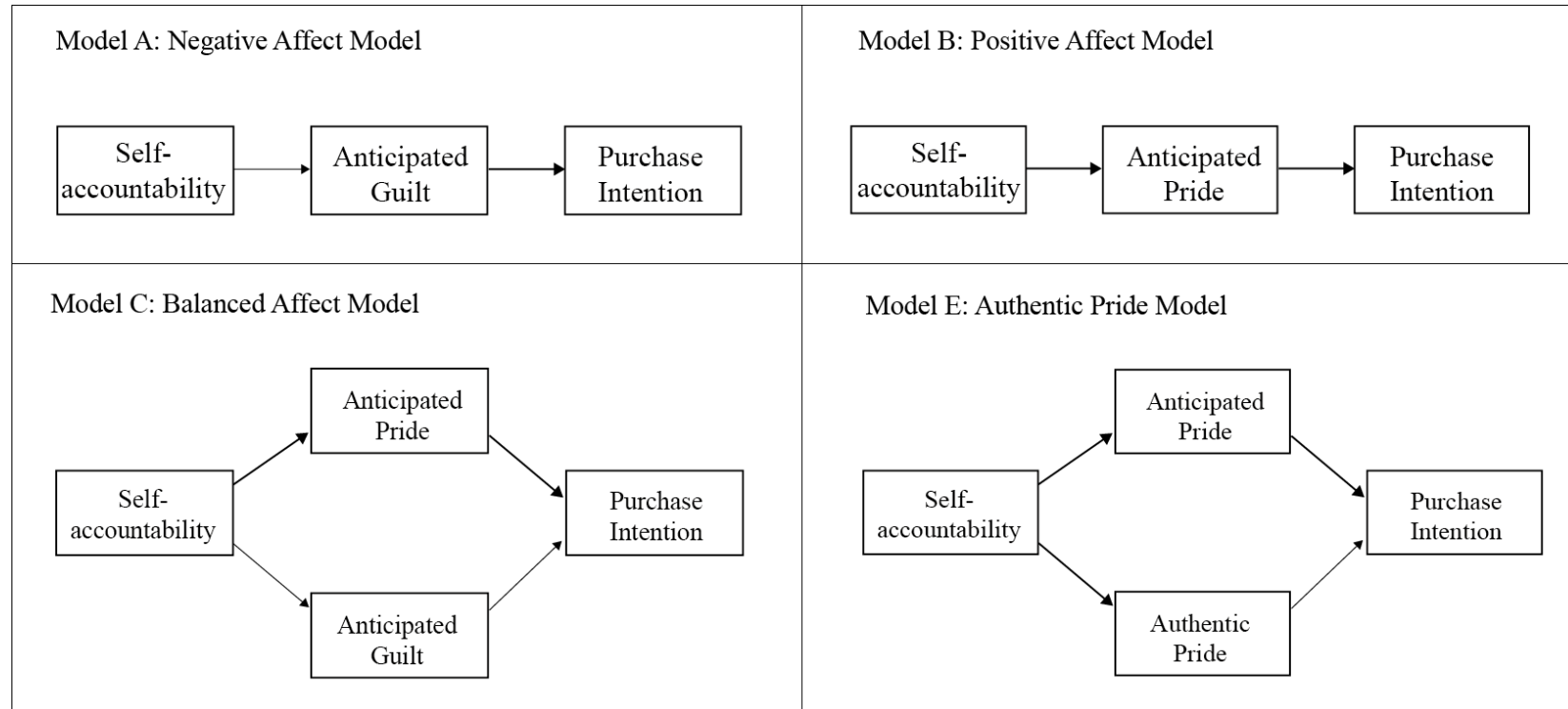


Figure 3-4 Conceptual models – Self-accountability Study 2

3.6.1 Research Design, Sample, and Data Collection

This study followed a similar approach to Study 1. An online consumer survey was used whereby participants first viewed a chocolate box with the company slogan on it followed by a page of additional text about the social enterprise and the products they sell. Participants then completed a list of questions. The chocolates are made by a social enterprise that employs autistic people to produce the chocolates; again, this is a real brand, but a newly launching one to control for existing brand knowledge. A pre-test was conducted to ensure the social message used was understood. See Appendix for the professionally produced advertising materials used.

Participants were recruited by an online panel provider, to maximise ecological validity. The sample was UK representative in terms of age, gender and education consisting of three hundred and four respondents. Data from 52 participants was removed, as they did not follow directions. The final sample size was 243 respondents and there were no missing data. The final sample included 112 females and 131 males, with an average age of 51.

Measures were adopted from Study 1 for common constructs across the two studies. Authentic pride used a 7-item scale from Tracy and Robins (2007). See Table 3-4 for all items.

3.6.2 Results and Discussion

Table 4 shows the path coefficients and model fit statistics for the hypothesised models. Based on analysis of variance (ANOVA), the influence of self-accountability on purchase intentions is significant ($F = 3.049, p(1, df < .000)$). This again provides field

confirmation of Peloza et al. (2013) argument that self-accountability has the potential to impact purchase intentions.

As in Study 1, conceptual models A-C are tested in addition to a new authentic pride model (E). Model D is discarded due to the Study 1 results. Using the same procedure as Study 1, four structural regression models (Figure 3-4) were tested using IBM AMOS 23 software. The models were estimated using the maximum likelihood method. The results and corresponding statistics are graphically displayed in Figure 3-5 and detailed in Tables 3-5 and 3-6.

Self-accountability and negative emotions

The negative affect model (A) has a much higher RMSEA than the recommended cut-off and poor fit statistics (Chi-square= 22.63, RMSEA= 0.30, CFI= 0.64, TLI = -0.09). In accordance with Study 1, the path coefficients show a significant effect of anticipated guilt on purchase intentions ($r^2=0.13$); however, the path from self-accountability to anticipated guilt was not significant ($p=0.06$; $r^2=0.03$). The explained variance of anticipated guilt and purchase intentions is very low. Anticipated guilt does not mediate the influence of self-accountability on prosocial purchase intentions, thus H1 is not supported.

Self-accountability and positive emotions

The positive affect model (B) explains a much higher percentage of the variance in purchase intentions ($r^2=0.48$) than the guilt model ($r^2=0.13$). This model showed a satisfactory fit (Chi-square= 8.14, RMSEA= 0.17, CFI= 0.96, TLI = 0.88) but it was not as significant as in Study 1. However, the mediating role of pride is stronger in Study 2 ($r^2=0.48$ in Study 2, 0.28 in Study 1). This study reconfirms the significant

role of anticipated pride in mediating the influence of self-accountability on sustainable purchase decisions, and shows that this effect applies to both social and environmental sustainability. Thus, H2 is supported.

How self-accountability impacts behaviour: Complementary role of pride and guilt

Similar to the findings in Study 1, the structural path through pride in Model C has a much better explanatory power than that through anticipated guilt ($r^2=0.09$ for anticipated pride, 0.03 for anticipated guilt) yet the model fit was not as significant (Chi-square= 7.86, RMSEA= 0.17, CFI= 0.97, TLI = -0.82). The route from self-accountability to anticipated guilt is not significant ($p=0.06$), nor is it significant in the path from anticipated guilt to purchase intentions ($p=0.19$). The variance explained for purchase intentions is the same as in Model B ($r^2=0.48$), thus H3 is not confirmed.

In a different sustainable product context, this study reconfirms that individuals with high levels of self-accountability are more likely to experience feelings of anticipated pride at the thought of purchasing a sustainable product. Contrary to study 1, in this context individuals are not likely to feel anticipated guilt at the thought of not purchasing the chocolates. This may be because societal context-specific norms are better established in the context of reduced household carbon than they are in the context of foods supporting people with autism; so while buying both can lead to pride, not buying the chocolate is less likely to contradict an injunctive norm and lead to guilt. Both categories suggest, however, that increasing levels of anticipated pride could be the most effective way of encouraging sustainable purchase decisions over a variety of different sustainability product categories.

Self-accountability and authentic pride

As anticipated, based on analysis of variance (ANOVA), the influence of self-accountability on authentic pride showed a significant interaction ($F = 1.826$, $p < 0.05$) (see Figure 3-5, Model E results).

A parallel model was tested in which authentic pride and anticipated pride were parallel mediators of the effect of self-accountability on purchase intentions. This model did not show a significant fit index (Chi-square = 8.41, RMSEA = 0.18, CFI = 0.98, TLI = -0.89) and showed the same variance on purchase intentions as in Model C ($r^2 = 0.48$). Although there was a significant path from self-accountability to authentic pride ($r^2 = 0.07$), the path from authentic pride to purchase intentions was non-significant ($p = 0.08$). Authentic pride does not mediate the influence of self-accountability on prosocial purchase intentions, thus failing to corroborate H5.

Similarly to the effects of anticipated pride, authentic pride is more likely to be experienced by individuals with high levels of self-accountability. An increased feeling of authentic pride, however, is not likely to motivate consumers to purchase sustainable products. The findings support existing research that there are different facets of pride that have differing roles in regulating behaviour (Tracy and Robins, 2007; Tracy et al., 2012; McFerran et al., 2014).

Table 3-4 Construct reliability and descriptives – Self-accountability Study 2

Construct	Measures	Cronbach's Alpha (Loadings)	Mean (SD)
Self-Accountability		0.87	5.24 (1.17)
	I feel accountable to behave in an ethical manner	(0.80)	4.77 (1.68)
	I am strongly motivated to live up to my own self-standards	(0.92)	5.45 (1.17)
	I feel accountable towards my own self-standards	(0.92)	5.49 (1.17)
Anticipated Guilt		0.95	2.06 (1.49)
	If you were not to purchase this product from Harry Specters, how intensely would you feel remorse?	(0.96)	2.05 (1.51)
	If you were not to purchase this product from Harry Specters, how intensely would you feel guilt?	(0.96)	2.06 (1.56)
Anticipated Pride		0.95	3.44 (1.78)
	If you were to purchase this product from Harry Specters, how intensely would you feel pleased?	(0.95)	3.70 (1.82)
	If you were to purchase this product from Harry Specters, how intensely would you feel good about yourself?	(0.94)	3.16 (1.93)
	If you were to purchase this product from Harry Specters, how intensely would you feel pride?	(0.97)	3.47 (1.86)
Authentic Pride		0.96	3.21 (1.69)
	If I bought this product for myself I would feel successful.	(0.87)	2.87 (1.82)
	If I bought this product for myself I would feel like I am productive.	(0.88)	3.13 (1.88)
	If I bought this product for myself I would feel confident.	(0.91)	3.18 (1.82)
	If I bought this product for myself I would self-worth.	(0.91)	3.13 (1.93)
	If I bought this product for myself I would feel like I've achieved something	(0.93)	3.31 (1.97)
	If I bought this product for myself I would feel like I've accomplished something.	(0.93)	3.32 (1.89)
	If I bought this product for myself I would feel fulfilled.	(0.85)	3.49 (1.92)

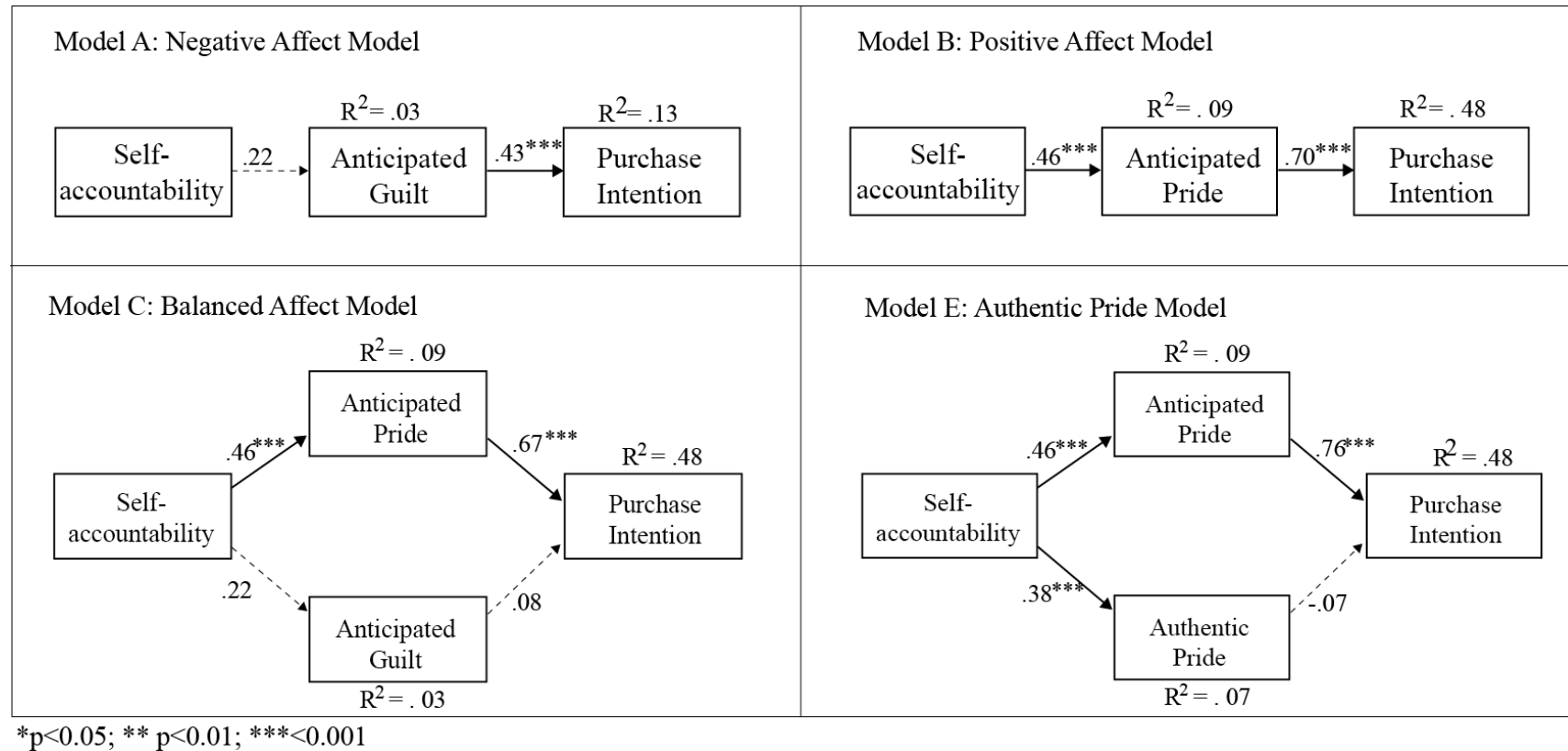


Figure 3-5 Results – Self-accountability Study 2

Table 3-5 Path coefficients – Self-accountability Study 2

Independent Variable	Dependent variable	Parameter Estimate	Standard Error
Model A:			
Self-accountability	Anticipated Guilt	0.22	0.08 (ns)
Anticipated Guilt	Purchase Intention	0.43	0.07 (***)
Model B:			
Self-accountability	Anticipated Pride	0.46	0.09 (***)
Anticipated Pride	Purchase Intention	0.70	0.05 (***)
Model C:			
Self-accountability	Anticipated Pride	0.46	0.09 (***)
Self-accountability	Anticipated Guilt	0.22	0.08 (ns)
Anticipated Pride	Purchase Intention	0.67	0.05 (***)
Anticipated Guilt	Purchase Intention	0.08	0.06 (ns)
Model E:			
Self-accountability	Anticipated Pride	0.46	0.09 (***)
Self-accountability	Authentic Pride	0.38	0.09 (***)
Anticipated Pride	Purchase Intention	0.76	0.08 (***)
Authentic Pride	Purchase Intention	-0.07	0.08 (ns)

*p<0.05; ** p<0.01; ***<0.001; ns=not significant

Table 3-6 Model goodness-of-fit statistics – Self-accountability Study 2

	Model A	Model B	Model C	Model E
Chi-square (df)	22.63 (df=1)	8.14 (df= 1)	7.86 (df= 1)	8.41 (df= 1)
RMSEA	0.30	0.17	0.17	0.18
CFI	0.64	0.96	0.97	0.98
TLI	-0.09	0.88	0.82	0.89

3.7 General Discussion

This study applies an established psychology behaviour change theory to sustainable online consumer choice. The study contributes to several bodies of literature: self-standards and self-discrepancy theory, self-conscious emotions, online retail, sustainability marketing, and the circular economy.

The objective of the current study was to propose a novel mechanism to help academics, practitioners and policy makers who aim to engender sustainable consumption behaviours. This objective was accomplished by empirically testing new conceptualisations of self-accountability's impact on online purchase intentions across two field studies. Both studies suggest that consumers with higher levels of self-accountability are more likely to have their purchase decisions influenced by anticipated feelings of pride from a sustainable purchase, with guilt also appearing to play a lesser role. The generalizability of these findings across two sustainable product categories shows the potential of self-accountability in driving sustainable consumption behaviours in technology-mediated environments.

3.7.1 Theoretical implications

This study builds on the work of Peloza et al. (2013) in highlighting the potential of self-accountability in encouraging sustainable purchase decisions. The current research adds to these authors in an online field context; the mediating role of anticipated pride; and a test in an environmental sustainability context as well as a social sustainability one. A number of theoretical models for self-accountability were tested and found that a balanced affect model, with a complementary route through anticipated pride and guilt, is most effective at explaining the influence of self-accountability on sustainable purchase intentions.

The main theoretical contribution of these findings is to the work on self-standards and self-discrepancy theory. There are no studies to date that have looked at the role of anticipated pride in mediating the effect of self-standards on behaviours, and none has done so in a sustainability consumerism context. The discovery of the role of self-accountability, along with the role of self-conscious emotions as mechanisms, presents a major opportunity. Academics and practitioners are looking for new ways of changing attitudes and behaviours to be more sustainable, but have overlooked the potential of a focus on self-standards and self-discrepancies. Furthermore, literature on sustainable consumer behaviour has discussed the negative emotional route to encouraging behaviour change, but has largely missed the opportunity that positive emotions present.

This study's findings highlight the importance of consumers' feelings of anticipated pride and guilt towards potential future sustainable purchase outcomes, for understanding the role of self-accountability. This challenges current beliefs that

negative self-conscious emotions are the key to motivating behaviours. The results of this study clearly suggest the inclusion of a positive route from self-accountability to pro-sustainable attitude and behaviour change, complementing findings from recent research on other roles for positive emotions (Antonetti and Maklan, 2014a, 2014b; Onwezen et al. 2013, 2014). Rather than demonising people for being unsustainable, marketing practitioners can make people feel good to encourage sustainable behaviours.

Incidentally, this study further contributes to self-conscious emotion research by supporting previous work identifying different facets of pride that perform differently (Tracy and Robins, 2007; Tracy et al., 2012; McFerran et al. 2014). Even though authentic pride was not significant in explaining sustainable purchase intentions, a unique relationship was discovered between self-accountability and authentic pride.

Finally, this study contributes to the understanding of the role of PCE in sustainability research by showing limits to its role in mediating between self-conscious emotions on the one hand and purchase intentions on the other. The study proposed a theoretical model that integrates self-accountability and both positive and negative self-conscious emotions in predicting PCE and hence sustainable purchase intentions. In line with previous research, PCE was positively influenced by pride (Antonetti and Maklan, 2014b); however, anticipated guilt had a negative significant effect on PCE within Study 1. Furthermore, there was no significant influence on purchase intentions. Individuals with higher self-accountability may have higher PCE, but this does not appear to drive consumers to purchase sustainable products. This effect may have occurred as the study used a low-salience product category, refurbished white goods. These are generally not chosen over new ones, so consumers may not be

knowledgeable of its environmental benefits, which may have impacted PCE (Block and Keller, 1995). Less salient sustainability issues may need different message appeals for increasing PCE and behaviour intentions (Obermiller, 1995).

3.7.2 Managerial implications

These findings present an opportunity for practitioners who wish to develop online retailing not just for sustainable products, but indeed for a wider range of products where self-conscious emotions play a role. The current research provides a route through which an online consumer dialogue can influence prosocial buying behaviour, by focusing on self-standards and the mediating role of anticipated pride and anticipated guilt. As well as endeavouring to optimise market attitudes within technology mediated environments, marketing managers can focus on consumers' motivation to live up to their self-standards, as heightened self-accountability increases preference for sustainable products. This mechanism can be applied to such varied challenges as the recycling of otherwise discarded products and the supporting of social causes by firms in the interests of corporate responsibility.

In order to make use of this behaviour change mechanism, it is useful that Pelozo et al. (2013) showed that self-accountability can be manipulated to increase ethical purchase intentions. Online marketers can apply these authors' technique of asking consumers, prior to a purchase decision, to recall an occasion when they did something that harms the environment, if an environmental product purchase is sought, or something that harms socially, if the behaviour sought is a social sustainability one. Furthermore, the discovery of a stronger route through pride suggests that this mechanism would work even better if the recalled incident is a positive story rather than a negative one. This

kind of very specific structuring of the dialogue is far easier to achieve in technology mediated environments than in most offline retail environments (Yoon et al., 2008; Minton et al., 2013), though there are circumstances in which the time available with a customer allows equivalent structuring of the conversation to be possible; premium financial services could be a case in point.

The circular economy provides particular opportunities for applying this research. Businesses are under increasing pressure to move towards a circular economy (Lacy and Rutqvist, 2015), which is underpinned by technology mediated environments, so many marketing managers are being asked to devise successful marketing strategies to facilitate this. Due to engrained attitudes and behaviours from current consumption patterns, very few people as yet purchase such circular economy offers such as the refurbished white goods studied in this paper. It is hard enough for marketing managers to shift purchase behaviours towards ethical coffee, let alone towards more expensive, complex products such as these.

More broadly, online practitioners might consider using less explicit guilt appeals in online marketing communications, and instead look to use positively framed messages designed to engender pride. There may be examples outside the sustainability context where marketers can look to boost self-accountability through experimenting with different message appeals that ask individuals to recall a past occasion when they did or didn't engage in a particular behaviour.

3.7.3 Limitations and directions for future research

Some obvious limitations are evident. As the data were collected from a self-report survey, there is a danger of social desirability bias. To reduce this danger, dependent

variables were collected first. The empirical data were collected in the field from consumers answering about real brands, to maximise ecological validity; but since this paper used online panel providers, in common with usual market research practice by firms, the sample was not randomly selected from the population so may not be fully representative, despite stratification. Survey respondents may suffer from fatigue; quality control questions were used to reduce this danger.

Another limitation which this study shares with most work exploring online attitudinal and emotional consumer response, and the great majority of work on sustainability behaviour, is in the dependent variable of purchase intentions. These do not always result in actual purchase behaviours. An ideal design to further test the findings would be field experiments, combining high internal validity and high external validity.

Such a design might enable the manipulation of self-accountability in such a field setting, extending Pelozo et al.'s (2013) primarily laboratory-based study and the field surveys of the current research. This could thereby compare conditions of high and low self-accountability and their impact on anticipated pride and guilt and hence on consumer behaviours. Pelozo et al. (2013) used a negative message to prime self-accountability; as discussed in the recommendations to managers, scholars might usefully experiment with instead using positive messages to prime self-accountability, as this might be expected to further trigger the positive emotional route to behaviour change through pride.

The current study did not control for the influence of behaviour setting on self-accountability. Pelozo et al. (2013) found that public (as opposed to private) settings heighten self-accountability in a pre-test; however, their field study did not directly

measure self-accountability, therefore the influence of this public setting in moderating the relationship between self-accountability and consumer choice is not clear. Furthermore, the majority of research on public versus private settings in consumer behaviour has addressed physical settings rather than virtual online ones. Tangney et al. (1996) found that shame and guilt emotions occurred significantly more in private settings, which may be relevant for some online purchase contexts. Future research might explore the difference in public and private settings when receiving online marketing communications and the impact this has on consumers' levels of self-accountability.

The conceptualisation of perceived consumer effectiveness (PCE) and its relationship to self-accountability requires further research. Although the model incorporating PCE was not significant in explaining sustainable purchase intentions, there appeared to be a significant relationship between PCE and self-accountability, partially mediated by anticipated pride and guilt. Kim and Choi (2005) discuss PCE in a collective context; sustainable behaviour is group orientated and often aims to benefit society. Further research might also explore if social standards moderate the influence of self-accountability on sustainable purchase intentions.

Overall, the recent conceptualisation of self-accountability remains little explored but seemingly powerful, particularly in online contexts where it can be effectively manipulated and where other effective mechanisms are in short supply. Further research is needed to explore how technology-mediated environments are already impacting on self-accountability, even when this is not the intent of a marketer. Furthermore, research is required to explore how successful this manipulation can be in practice, what behaviours it can influence other than those studied in this paper, and

what the side-effects of this manipulation might be. A longitudinal study would ideally be conducted to examine whether self-accountability can influence long-term sustainable behaviour change.

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3.9 Appendix



Figure 3-6 Advertisement shown in Study 1

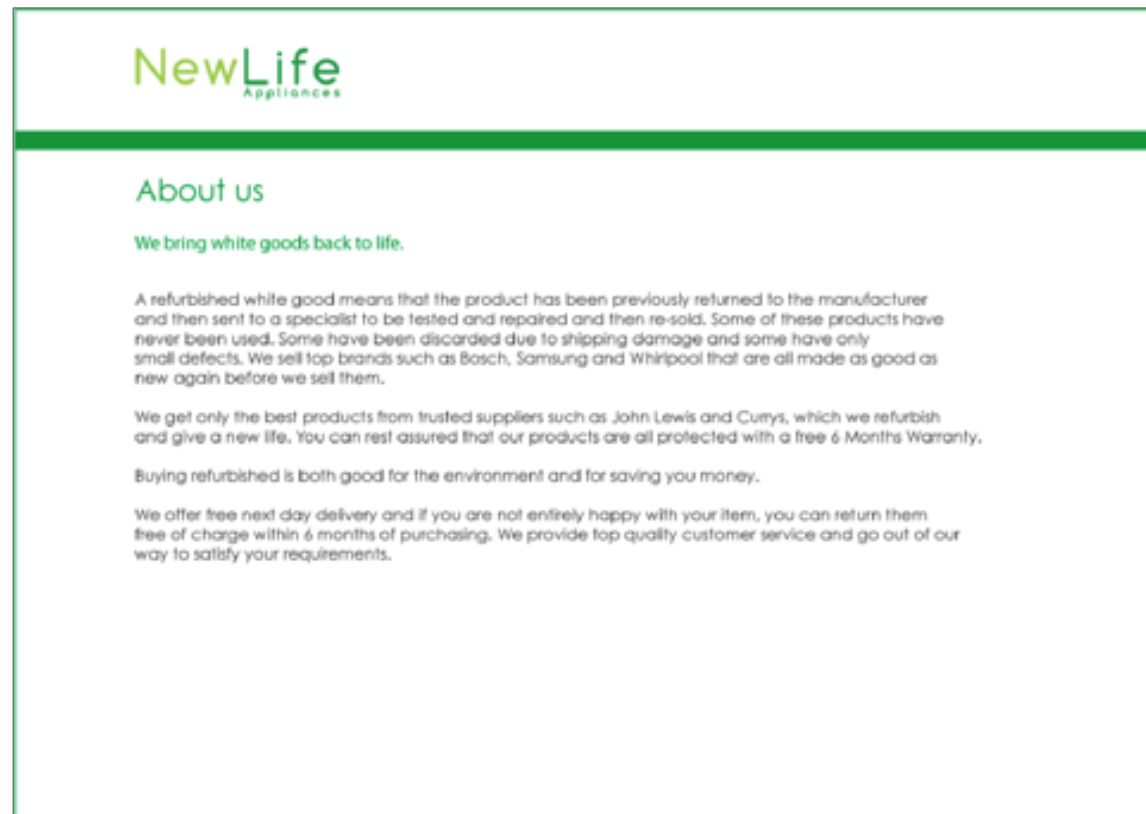


Figure 3-7 'About us' page shown in Study 1

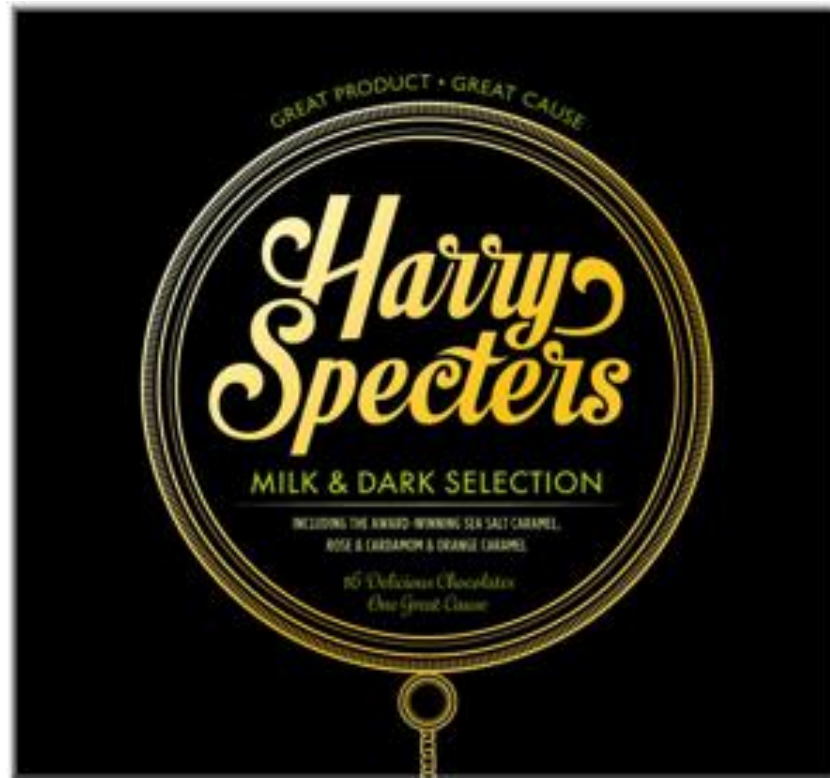


Figure 3-8 Product packaging shown in Study 2



GREAT PRODUCT • GREAT CAUSE

Harry Specters was imagined as a home of chocolate artists gathering to create hand crafted luxury chocolate with distinctive flavours. Today you are holding part of it in your hands - a lovingly award winning composition created in an environment that provides a positive change for young people with autism. Every bar, every chocolate that we make as a social enterprise contributes to making our society better – thank you and enjoy!

Figure 3-9 Product information shown in Study 2

4. PRIDE IN MY PAST: INFLUENCING SUSTAINABLE CHOICES THROUGH BEHAVIOURAL RECALL

This chapter addresses the thesis's **Objective 3**: to test ways of manipulating appraisals of pride and guilt for encouraging sustainable purchase choices.

The output of this chapter forms journal paper 3 (in review for Journal of Business Ethics).

4.1 Overview

The previous chapter developed on the limited knowledge on self-accountability and explored its influence on sustainable purchase behaviour via anticipated pride and guilt. The findings show the positive impact of self-accountability on consumer behaviour, mediated by anticipated pride and guilt. These results informed the development of a further empirical investigation. This next chapter aims to build on the prior findings of pride and guilt in two experimental studies that explore the influence of emotional appraisals. This chapter corresponds to objective 3 and aims to 1) test a manipulation of pride and guilt appraisals from recalling a past (un)sustainable event, and 2) test the mediating effect of anticipated pride and guilt on sustainable purchase choices. The contribution of this chapter is depicted in Figure 4-1.



Figure 4-1 Contributions from paper 3 findings

4.2 Abstract

Emotional appraisal research has demonstrated that recalling a past behaviour and its associated emotions can influence future behaviour. However, how such recalled emotions shape sustainable consumer choice has not been examined. This study examines the role of recalled pride and guilt in shaping sustainable purchase intentions, and the mediating role of anticipated pride and guilt. A conceptual model is proposed for motivating sustainable purchase intentions through the emotions associated with behavioural recall. The model is applied in two experiments with online consumers examining purchase intentions of low carbon cars. Recalling feelings of pride associated with a past sustainability-related behaviour increases sustainable purchase intention, as opposed to a neutral recall. This effect occurs through the mediation of both anticipated pride at the prospect of a sustainable behaviour choice, and anticipated guilt if the future choice is not sustainable. Similar hypotheses relating to recalled guilt at past unsustainable behaviour were not supported. The research is useful to marketers of sustainable products by revealing how to influence purchase intentions through reminding consumers of their sustainable past behaviours. The study contributes to research on sustainable consumption, revealing an emotional route by which past behaviour can influence future behaviour. It adds to emotional appraisal research some granularity on the role of self-conscious emotions in forming this route, as prior research has focused more broadly on emotional valence.

Keywords: Self-conscious emotion, Pride, Guilt, Appraisal theory, Past behaviour, Sustainable Marketing, Consumer Behaviour

4.3 Introduction

Research interest in social and environmentally sustainable behaviour has been increasing in recent years. Awareness among the public is also increasing, with environmental sustainability in particular becoming an established social norm in much of western society (Peloza et al., 2013), in part due to the more frequent reports in the media. As consumption choices are significant in determining sustainability outcomes such as greenhouse gas emissions, an area of particular interest is that of consumer behaviour and the challenge of encouraging pro-environmental consumption habits.

Attempts to change consumer behaviour have, however, had limited success (Barbarossa and Pelsmacker, 2016), and a longstanding scholarly discussion has considered whether this is due to weaknesses in theory. The dominant theoretical approach to sustainable behaviour change has been the Theory of Planned Behaviour (Ajzen, 1991), which implies the need to change attitudes or rely on societal norms. Sustainability marketers accordingly have attempted to shape attitudes through information-based campaigns promoting pro-sustainable behaviour (Darley et al., 2010). Yet, although most people state that they care about being sustainable, few demonstrate this decisively in their behavioural choices, suggesting the existence of an attitude-behaviour gap (Papista and Krystallis, 2013). While the potential for social effects in encouraging sustainable behaviours is rightly being explored (Steg and Vlek, 2009), these are not always effective, as only a few “deep green” consumers hold social norms strongly enough to influence their behaviour. Perceived behavioural control towards being able to solve an issue through consumption choices has shown to influence sustainable behaviour choices (Kim and Choi, 2005; Akehurst et al., 2012;

Kang et al., 2013), yet an individual's perception of control over their own behaviour is not necessarily consistent across every behavioural context, nor is it easy for marketers to substantially influence it (Cleveland et al., 2012).

Alternative routes to explaining and influencing sustainable behaviour outcomes therefore continue to be explored. Among the promising recent examples, one stream has examined the role of self-accountability (Peloza et al., 2013), based on self-discrepancy theory (Higgins, 1987); another has explored the application of social identity theory, studying whether the beneficiaries of socially sustainable behaviour are regarded as part of an in-group or an out-group, and whether these perceptions can be modified (Champniss et al., 2015).

In this article, we build on two further streams of theoretical explanation: the role of past behaviour (Ajzen, 2002; Bamberg et al., 2003), and that of emotions (Moons and De Pelsmacker, 2012). Marketing research has demonstrated that emotions play an important role in consumers' decision-making (Kemp et al., 2012), and the ability of advertising to elicit emotional responses from consumers has been well researched (Huhmann and Brotherton, 1997; Kemp et al., 2012). Scholars have argued that such emotional responses are influential in predicting future emotional appraisals and thereby impacting on consumer choice (Tracy and Robins, 2006) as well as word-of-mouth (Nyer, 1997); this has been evidenced in consumption contexts from luxury goods (McFerren et al., 2014) and ethical purchases (Steenhaut and Van Kenhove, 2006). Particularly in such ethical and sustainability contexts, the study of emotions in marketing communications has been dominated by negative emotions such as guilt or fear appeals, and these appear to have some success in influencing behaviour (Dickerson et al., 1992; Huhmann and Brotherton, 1997; Chen, 2016).

The most relevant negative emotion to sustainable consumerism appears to be guilt, a self-conscious emotion elicited when an individual evaluates an event as relevant to their self for achieving their goals (Tracy and Robins, 2007; Antonetti and Maklan, 2014b). In consumer research, guilt has primarily been examined in the form of anticipated guilt, experienced when contemplating the outcome of a behaviour (such as a purchase or usage behaviour) as not achieving a personal standard. Anticipated guilt has successfully motivated a number of sustainability-related behaviours through the desire to avoid feelings of guilt associated with not choosing a sustainable alternative (Steenhaut and Van Kenhove, 2006; Carrus et al., 2008; Elgaaied 2012; Pelozo et al., 2013; Antonetti and Baines, 2015).

The question naturally arises whether positive emotions, too, may play a role in engendering sustainable behaviour. In particular, recent research has proposed the role of anticipated pride and not just anticipated guilt in influencing sustainable purchase intentions (Onwezen et al., 2013, 2014). Like guilt, pride is a self-conscious emotion which can draw attention to goal fulfilment (Tracy and Robins, 2007; Baumeister et al., 2007). As a result, feelings of pride can motivate consumers to want to carry on achieving their goals and gaining the feelings of pride associated with the behaviour (Peter and Honea, 2012). The potential of anticipated pride for motivating sustainable consumption behaviour is still little explored, however, and only recently has it been applied to sustainable consumption choices such as ethical purchase intentions (Harth et al., 2013; Antonetti and Maklan, 2014a, 2014b). These prior studies have laid some theoretical and empirical groundwork by demonstrating the impact of anticipated pride and guilt on behaviour outcomes. For practitioners, this raises the crucial question of how anticipated pride and guilt can themselves be engendered. The promising study by

Antonetti and Maklan (2014a) demonstrated that feelings of anticipated pride and guilt, elicited through a postconsumption scenario, successfully influenced future ethical purchase decisions. Building on this research, a theoretical possibility for influencing anticipated pride and guilt is to look at the role of emotional recall. Specifically, we explore the role of the past in eliciting appraisals of *recalled* pride and guilt, and how these can inform future consumption choices.

The impact of recalling a past emotion on future behaviour outcomes has been successfully demonstrated in a variety of contexts, such as appraisals of stress related to an event (Levine et al., 2012), water conservation behaviours (Dickerson et al., 1992), and condom use (Aranson et al., 1991). The recalled emotions in these studies are believed to influence behaviour via their impact on *anticipated* emotions. Self-discrepancy theory (Higgins et al., 1987) and dissonance theory (Festinger, 1957) have demonstrated the role of recalled negative emotions on anticipated negative emotions for influencing outcomes such as task performance (Duval and Lalwani, 1999), affect (Higgins et al., 1986; Higgins et al., 1987; Tangney et al., 1996), and approach versus avoidance behaviours (Higgins et al., 1994). From a contemporary perspective, however, most of these recalled-emotion studies have the limitation that they measure merely emotional valence (Baumeister et al., 2007) and not specific emotions. More recently, Tong (2015) assessed the role of recalled positive appraisals on a number of positive emotions, and Jordan et al. (2011) explored the impact of positive emotional outcomes in the context of moral behaviour. Again, these studies have looked at positive emotional valence, and not specific positive emotions such as pride. While this previous work is promising, then, it is still not clear whether and how recalled pride and guilt can be elicited in order to guide future behavioural choices (Aaker et

al., 2008). In particular, the role of emotional appraisals of pride and guilt, elicited from a past behaviour, for influencing anticipated pride and guilt and hence future sustainable behaviour has not been explored, to our knowledge.

This study addresses this gap. Through an experiment, we examine how recall of a past sustainability-related event, chosen to elicit either recalled guilt or recalled pride, impacts on future sustainable purchase intentions, as compared with recall of a non-sustainability related event (a neutral recall). Through a second experiment, we explore the role of anticipated pride and guilt in mediating between the recalled emotions and sustainable purchase intentions (see conceptual model in Figure 4-2).

We thereby make a number of contributions to literature. First, we confirm recent work that has shown that pride and not just guilt can impact sustainable consumer choices (Harth et al., 2013; Onwezen et al., 2013, 2014; Antonetti and Maklan, 2014a, 2014b), adding that both can be manipulated, and that in some contexts at least, pride may prove a stronger route to behaviour change. Second, we extend the broader emotional appraisal literature by examining the role of recalled pride as well as guilt for motivating behaviour. Third, we contribute to both sustainable consumption and emotional appraisal literatures by evidencing how anticipated pride and guilt mediate the impact of recalled pride and guilt on sustainable purchase intention. These findings are relevant to practitioners wishing to influence sustainable consumer behaviour, by providing a way to manipulate anticipated pride and guilt that can be easily achieved in marketing communications.

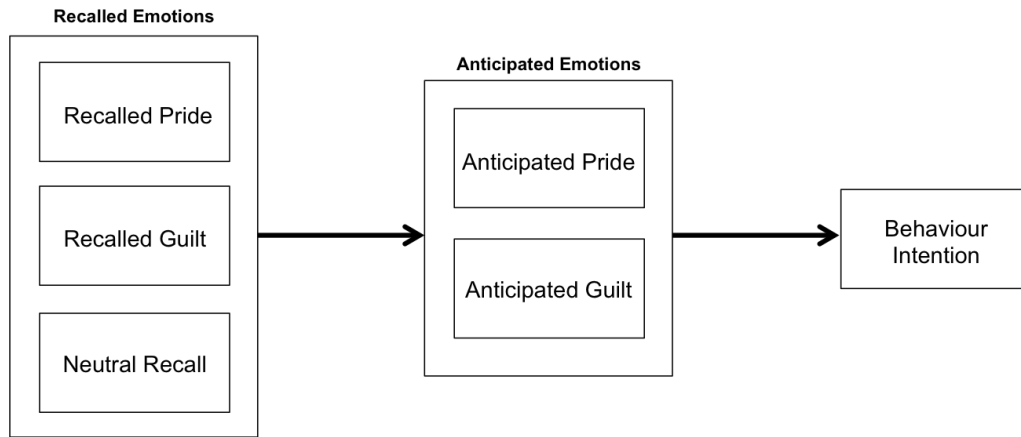


Figure 4-2 Recalled emotions conceptual model

4.4 Conceptualisation

The Role of Appraisal Related Emotions in Behaviour Intentions

According to appraisal theory, emotional responses are created as a result of one's evaluations of an event (Lazarus, 1991). Appraisal theory emphasises that encouraging individuals to reflect on a past event and its associated emotions can act as a basis for an individual to make future decisions (Ajzen, 2002; Levine et al., 2001). Making people think about their past performance forces them to evaluate whether they successfully achieved a goal and its associated emotions. Individuals then use this evaluative state to make judgments that inform future behaviour decisions (Levine et al., 2012; Hasford et al., 2015).

This theory has been applied to a number of contexts such as coping with stress (Lazarus and Folkman, 1984; Lazarus, 1991), emotional regulation (Kemp et al., 2012) and task performance (Duval and Lalwani, 1999, Belschak and Den Hartog, 2009). More recently, emotional appraisals have been identified as a promising area for explaining consumption behaviour (Nyer, 1997; Bagozzi et al., 1999; Johnson and Stewart, 2005). These studies, however, have mainly been focused around negative

appraisals, and results from the limited body of positive appraisal research have been inconsistent. For example, Winterich and Haws (2011) suggest that positive emotions are only effective when adapting a future temporal focus rather than when appraising the past; Jordan et al. (2011) found that recalling a moral behaviour does not influence prosocial intentions, whereas recalling an immoral behaviour does; and Louro et al. (2005) found that the positive emotion of pride can result in decreased repeat purchase intentions. This contrasts with other work reporting that positively valenced recall can have a positive behavioural effect (Tong 2015). This leaves uncertainty around what influence positive appraisals can have on consumer behaviour. A second gap which may be related to the first is that the majority of appraisal literature has focused on emotional valence in general (whether the emotional response is positive or negative), and what appraisals cause this positivity of emotion, leaving unclear the role of more specific emotions for influencing behaviour outcomes (Watson and Spence, 2007).

The Complementary Role of Pride and Guilt Appraisals

In looking to understand this role of more specific emotions, a promising area to look is the role of self-conscious emotions. Consistent with the emotional appraisal perspective, self-conscious emotions influence behaviour through the attribution of responsibility to one's self (Tracy and Robins, 2004; 2007). This attribution of responsibility is especially effective for encouraging individuals to re-evaluate the outcome of their behaviour and to motivate action (Levine et al., 2001; Peter and Honea, 2012). Assigning responsibility to the self can reduce individuals' ability to pass blame to others or apply neutralisation techniques to rationalise their behaviour (Tracy and Robbins, 2004; Antonetti and Maklan, 2014a).

Much of the literature on recalled self-conscious emotions for regulating behaviour has

focused on negative affect. Negative self-conscious emotions such as guilt are elicited when an individual attributes failure to an “internal, unstable, and controllable cause, such as effort” (Tracy and Robins, 2006, p1348). A multitude of research has demonstrated the ability of guilt to guide a variety of decisions (Tangney et al., 1996; 1998; Dahl and Honea, 2005; Basil et al., 2006; Hibbert et al., 2007; Carni et al., 2013). Furthermore, Allard and White (2015) show that guilt can be channelled from a focus on previous wrongdoings to influence future preferences of products with self-improvement benefits. Overall, it is well established that negative emotions, and guilt in particular, can act as mechanisms for action to avoid or control for future occurrences of negative affect (Peter and Honea, 2012).

The study of self-conscious emotions increased in the psychology and marketing fields in the 1990s (Gaur et al., 2014), yet positive emotions such as pride only gained comparable interest more recently (Tracy et al., 2014). Pride, like guilt, is a self-conscious emotion that results from cognitive appraisals of one’s self in the occurrence of an emotion-eliciting event (Tracy and Robins, 2004; 2007). Pride is a positive emotion elicited when an individual evaluates an event as relevant to the self for achieving their goals (Louro et al., 2005; Tracy and Robins, 2007; Tracy, Weidman, Cheng and Martens, 2014). As a result, feelings of pride motivate individual behaviour to carry on achieving their goals and gaining the associated feelings of pride (Peter and Honea, 2012).

Previous research has shown that positive emotions associated with past behaviour stimulate subsequent behaviour intentions (Bagozzi et al. 1999; Louro et al., 2005) by reinforcing an individual’s belief in their ability to attain positive outcomes through their actions (Louro et al., 2005). Appraisals of pride in marketing have been applied

to contexts such as service satisfaction (Lastner et al., 2016), snack consumption (Winterich and Haws, 2011) and wasteful consumption behaviour (Peter and Honea, 2012), yet the role of pride is still relatively under-explored. More recently, in a sustainability context, Schaffner et al. (2015) successfully used communications about biodiversity to evoke positive and negative emotions; however, their study did not look at past consumption behaviour or recalled pride and guilt specifically. Previous studies show that pride can be manipulated (Levine et al., 2001; Salerno et al., 2015). For example, Salerno et al. (2015) manipulated pride in the context of the amount of restraint a consumer exhibits in their self-regulatory behaviour. These examples have not, however, explored the influence of pride in a purchase behaviour context, or for influencing sustainability related behaviour. Pride research in sustainability marketing literature has seen a promising increase in recent years, yet this has looked at the role of anticipated pride, and not yet that of recalled pride.

We therefore explore the role of recalled pride and guilt on sustainable purchase intentions. We expect emotional appraisals of pride and guilt to influence sustainable purchase decisions due to their ability to motivate action through the desire to achieve one's goals and attain positive outcomes (Peter and Honea, 2012). We postulate that a consumer recalling a past event they are proud of or feel guilty about is more likely to lead to sustainable behaviour outcomes compared to recalling a neutral event; (Jordan et al., 2011; Tong, 2015). Thus, the following hypotheses are proposed:

Hypothesis 1: Recalled pride leads to higher sustainability-related purchase intentions as compared to a neutral recall.

Hypothesis 2: Recalled guilt leads to higher sustainability-related purchase intentions

as compared to a neutral recall.

The mediating role of anticipated emotions

After the emotional appraisal stage, behaviour will be informed by the assessment of whether the anticipated outcome of a subsequent behaviour will elicit positive or negative emotions (Watson and Spence, 2007). The mediating role of anticipated emotions for regulating behaviour has mainly been explored in terms of avoiding undesirable outcomes (Huhmann and Brotherton, 1997). For example, guilt appeals are thought to work through future anticipated emotions, and these are believed to be more effective than currently felt emotions for enlisting behaviour change (Richard et al., 1996). Examples of this can be seen in the self-discrepancy theory literature (Higgins, 1987; Pelozo et al., 2013) and the dissonance theory literature (Festinger, 1957), where behavioural decisions are mediated by anticipated negative affect. The role of anticipated guilt has successfully motivated sustainability-related behaviours through the desire to avoid feelings of guilt associated with not choosing a sustainable alternative (Steenhaut and Van Kenhove, 2006; Chang and Pham, 2013; Pelozo et al., 2013; Antonetti and Baines, 2015). Nevertheless, anticipated guilt is relatively under-explored in comparison to other negative emotions such as explicit guilt appeals (O'Keefe, 2002) and fear appeals (Chen, 2016). Furthermore, the role of anticipated guilt for motivating sustainability behaviours is still not fully understood (Chang and Pham, 2013).

The potential of anticipated pride for motivating sustainable consumption behaviours is still relatively unknown. Only recently has it been applied to explaining consumption choices such as purchases of luxury brands (McFerran et al., 2014) and ethical purchase intentions (Harth et al., 2013). Recent research has shown promise for

the inclusion of both anticipated pride and guilt for influencing ethical purchase intentions (Onwezen et al., 2013, 2014; Antonetti and Maklan, 2014a, 2014b). These studies show that positive self-conscious emotions such as anticipated pride, and not just guilt, can motivate purchase intentions.

The role of past behaviour appraisals in eliciting emotions and their influence on consumption behaviours via anticipated emotions has not been explored in a sustainability context. As proposed by Baumeister et al. (2007), past emotional outcomes guide future behaviours indirectly through anticipated emotional outcomes (Aranson et al., 1991; Duval and Lalwani, 1999; Levine et al., 2012). Therefore, we hypothesise the following:

Hypothesis 3: *The impact of recalled guilt on sustainable purchase intentions is mediated by anticipated guilt.*

Hypothesis 4: *The impact of recalled pride on sustainable purchase intentions is mediated by anticipated pride.*

However, anticipated guilt might also play a role when consumers recall the pride associated with a past sustainable behaviour: being proud about past sustainable behaviour might elicit anticipated guilt in consumers sensing they may not raise to their previous self-standard (Antonetti and Maklan, 2014a). Therefore, we also posit that:

Hypothesis 5: *The impact of recalled pride on sustainable purchase intentions is also mediated by anticipated guilt.*

Similarly, anticipated pride might also play a role when consumers recall the guilt

associated with a past sustainable behaviour: feeling guilt about past sustainable behaviour might elicit anticipated pride in consumers feeling they will raise beyond their previous self-standard. Thus, we hypothesise:

Hypothesis 6: The impact of recalled guilt is also mediated through anticipated pride.

4.5 Study 1

Study 1 investigates the direct effect of recalled pride and guilt on sustainable purchase intentions (Hypotheses 1 and 2). We predict that when recalled guilt is activated (compared to a situation of neutral recall), participants would have higher purchase intentions of a low carbon car, in order to reduce feelings of guilt. Similarly, when recalled pride is activated (compared to a situation of neutral recall), we anticipate that participants would have higher purchase intentions of a low carbon car to maintain feelings of pride.

4.5.1 Method

Recalled pride was induced by asking participants to recall a positive sustainability-related event, and recalled guilt was induced through recalling a negative sustainability-related event. The procedure followed established approaches of manipulating emotions, by asking people to recall a past event and contemplate how they felt about it (Aronson et al., 1991; Levine et al., 2012; Salerno et al., 2015; Wang et al., 2016), in order to form judgments that will guide future emotions and behaviour. Following the approach by Levine et al. (2012), participants rated the extent to which they felt a number of emotions, three for pride and three for guilt. A pretest revealed that the manipulation of recalled pride elicited higher pride (5.55 vs 2.43; $F(1,1)=139$, $p>.01$) and the manipulation of recalled guilt elicited higher guilt (Mean 4.91 vs 1.27;

$F(1,1)=295, p>.01$).

In addition to the positive and negative conditions, a neutral condition was included in the main study to compare each recalled emotion relative to a neutral recall condition. Our manipulations of recalled pride and guilt were adapted from a study by Levine et al. (2001). In the recalled guilt condition, participants were asked to “Think of a recent time in which you engaged in a behaviour that was not consistent with positive environmental values. That is, think of a time that you have engaged in a behaviour that was not good for the environment”. In the recalled pride condition, participants were asked to “Think of a recent time in which you engaged in a behaviour that was consistent with positive environmental values. That is, think of a time that you have engaged in a behaviour that was good for the environment”. Participants in the neutral condition were asked to “Remember the last time you went to the movies”. This behaviour was chosen as a neutral event as it is not sustainability related and does not elicit strong feelings of pride or guilt. Participants were then asked to write about this occasion in the survey to encourage them to think about the occasion in detail Levine et al. (2001).

Purchase intention was assessed through a measure that asked participants to rate the extent to which they would purchase a low carbon car on a 7-point Likert scale (1=Not likely at all, 7=Extremely likely). A total of 152 graduate students participated in the study. Participants were randomly assigned to one of the three conditions (recalled emotion: guilt, pride, neutral) in a between-subjects design.

4.5.2 Results and Discussion

Purchase Intention. An ANOVA found a significant effect of recalled emotions on purchase intentions at the 10% level ($F(2,148)=2.64, p<.08$); see Figure 4-3. To test the hypotheses, we used a planned contrast approach (Rosenthal and Rosnow, 1985) to define the specific comparisons between the three groups. This revealed that the effect on purchase intentions is significantly different between the recalled pride and the neutral conditions at the 5% level (5.72 vs. 5.02; $F(1,148)=5.24, p<.05$), but not between the recalled guilt (M=5.23) and neutral recall conditions ($F(1,148)=0.76, p>.1$).

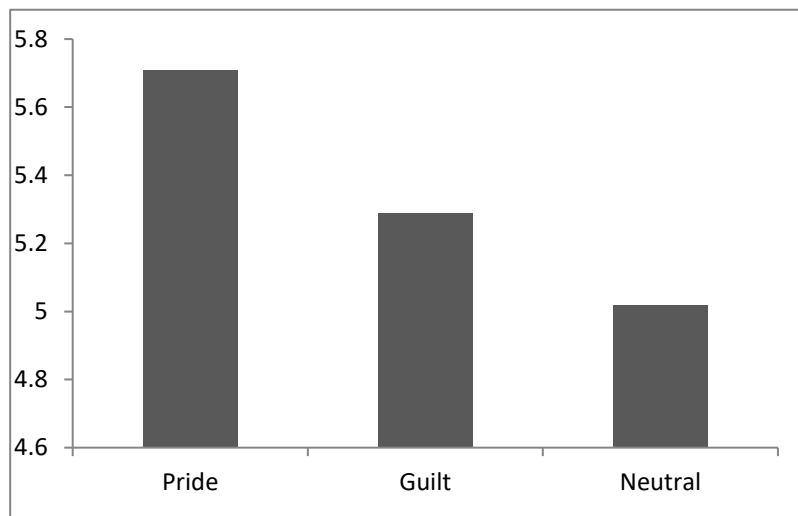


Figure 4-3 Recalled emotions Study 1 - Sustainable purchase intention between recalled emotion conditions

Discussion. Study 1 provides evidence about the influence of recalled pride and guilt on sustainable purchase intentions. The recalled pride condition functioned well, whereas the role of recalled guilt was inconclusive, when compared to a neutral recall.

When recalled pride was engendered through remembering a positive sustainability event (compared to a neutral one) purchase intentions were significantly higher (at the 5% level; we warn that the overall ANOVA comparing all three conditions was only significant at $p < 0.08$). However, recalling a negative sustainability event giving rise to recalled guilt (compared to a neutral one) did not significantly lead to higher purchase intentions: while the mean difference was in the expected direction, this difference was not significant. This study therefore provides some support for Hypothesis 1; however, in contrast to the clearly evidenced role of *anticipated* guilt in other studies (Steenhaut and Van Kenhove, 2006; Pelozo et al., 2013), our results do not provide backing for the influence of *recalled* guilt on purchase intentions, when compared to a neutral condition. Hence Hypothesis 2 is not supported.

4.6 Study 2

Study 1 results suggest that, compared to a neutral recall condition, the recalled pride condition leads to higher sustainable purchase intentions. Unexpectedly, given the positive findings in prior work on the role of anticipated guilt (Pelozo et al., 2013; Antonetti and Maklan, 2014a) in shaping intentions, the recalled guilt condition did not lead to higher purchase intentions compared to the neutral recall condition. Given these results, we wanted to check whether the effect that recalled emotions have on purchase intentions is due to the anticipated emotions they elicit (Baumeister et al., 2007). Even though the planned contrast between the recalled guilt and neutral recall conditions on purchase intention did not reach significance, we sought to find evidence as to whether recalled emotions impact purchase intentions through their effect on anticipated pride and guilt (i.e., as an indirect effect). We achieved this by means of mediation analyses based on bootstrapping (Zhao et al., 2010). We also wished to

replicate Study 1 with a fresh sample to provide further evidence on the main hypothesised effects (Hypotheses 1 and 2). A third motivation was to endeavour to strengthen these main effects by increasing the salience of sustainability in this context of car purchase. Prior work has found that sustainability appeals are more successful when they concern a product category which consumers already regard as sustainability related (Kronrod et al., 2012). We therefore modified the design to remind all participants of the importance of car travel in environmental sustainability, as described below. Study 2 otherwise followed the same procedure as Study 1 and additionally explored the mediating mechanisms of anticipated pride and guilt (Hypotheses 3, 4, 5 and 6).

4.6.1 Method

Recalled emotions were manipulated following the same procedure as Study 1. To strengthen the salience of environmental sustainability as an issue when considering car purchase (Kronrod et al., 2012), participants were then presented with some information about the environmental impact of cars, shown in the Appendix. Participants were then asked to rate the extent to which they would purchase a low carbon car (with 3 items, “The next time I buy a car I am likely to choose one as low carbon as possible”, “The next time I buy a car I would be inclined to choose one as low carbon as possible”, “The next time I buy a car I would be willing to choose one as low carbon as possible”, $\alpha=.92$) using a 7-point Likert scale (1=Not at all, 7=Extremely). They then rated their anticipated feelings of pride towards the outcome of purchasing a low carbon car, and anticipated guilt towards the outcome of not purchasing a low carbon car, using a three-item scale for anticipated pride (“If you were to purchase a low carbon car, how intensely would you feel pleased?”, “If you

were to purchase a low carbon car, how intensely would you feel good about yourself?”, “If you were to purchase a low carbon car, how intensely would you feel pride?”, $\alpha=.89$) (Roseman, 1996) and a two-item scale for anticipated guilt (“If you were not to purchase a low carbon car, how intensely would you feel remorse?”, “If you were not to purchase a low carbon car, how intensely would you feel guilt?”, $\alpha=.88$) (Soscia, 2007), on a 7-point Likert scale (1=Not at all, 7=Extremely). Next, participants rated how much the recalled event elicited feelings of pride and guilt using the scale from Study 1.

A total of 328 American Mechanical Turk (Mturk) users took part in the study. As in Study 1, participants were randomly assigned to one of three conditions, recalled pride, recalled guilt and neutral recall, in a between-subjects design.

4.6.2 Results and Discussion

Purchase Intention. The ANOVA analysis, depicted in Figure 4-4, shows a significant difference between the three conditions in terms of purchase intentions at the 1% level (Mean Recalled Pride=5.69, Mean Recalled Guilt =5.36, Mean Neutral Recall=5.00, $F(2, 2)=5.95$, $p<.01$). In order to test the specific hypotheses 1 and 2, the planned contrast analysis revealed that purchase intentions are significantly different between the recalled pride and neutral conditions ($F(1,320)=11.9$, $p<.01$) but not between the recalled guilt and neutral conditions ($F(1,320)=3.14$, $p=.08$). These findings are consistent with those in Study 1, with an improved level of significance for Hypothesis 1. This improved significance may result from the strengthening of the salience of environmental sustainability in the Study 2 design, from the larger sample, or both.

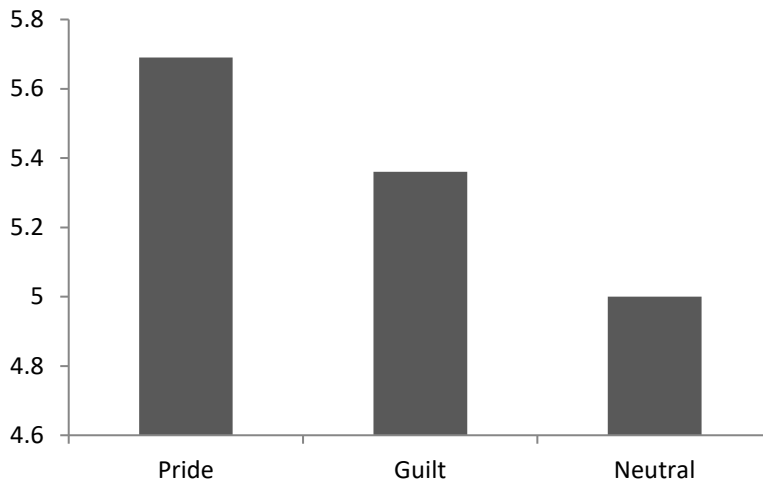


Figure 4-4 Recalled emotions Study 2 - Sustainable purchase intention between recalled emotion conditions

Mediation Analysis. The ANOVA analysis suggested that there was a significant difference between the three conditions in terms of anticipated pride ($F(2, 2)=5.87$, $p<.01$) and anticipated guilt ($F(2, 2)= 2.95$, $p<.05$).

A mediation analysis was conducted to test the prediction that anticipated pride mediates the relationship between recalled pride and behaviour intentions (Hypothesis 3), and that anticipated guilt mediates the relationship between recalled guilt and behaviour intentions (Hypothesis 4), as compared with a neutral recall. Following the approach by Salerno et al. (2015), we ran a special analysis using a 3-level categorical independent variable (recalled emotions) with neutral recall as the baseline, in order to evaluate the indirect effects for each recalled emotion relative to the neutral recall condition (Hayes and Preacher, 2014).

We test these predictions using PROCESS model 4 (Hayes, 2013) in a multiple mediation model. In this mediation analysis, the 95% confidence intervals used were conducted at 5000 bootstrap samples. As presented in Table 4-1, the mediation

analysis yielded point estimates, standard errors and confidence intervals for each indirect effect.

Table 4-1 Multiple mediation of the effect of recalled pride and guilt on sustainable purchase intentions through anticipated pride and guilt

Influencing factor	Mediator	Point estimate (PE)	SE	95% CI	
				Lower	Upper
Positive recall	Anticipated pride	.33	.10	.16	.55
Negative recall	Anticipated pride	.15	.11	-.05	.37
Positive recall	Anticipated guilt	.12	.06	.03	.26
Negative recall	Anticipated guilt	.05	.05	-.04	.17

With respect to recalled pride, the path from recalled emotion to purchase intentions through anticipated pride was significant (95% CI, .16 to .55), as was the path through anticipated guilt (95% CI, .03 to .26). This confirms Hypotheses 3 and 5. In respect to recalled guilt, the path from recalled emotion to purchase intentions through anticipated guilt was not significant (95% CI, -.04 to .17), nor the path through anticipated pride (95% CI, -.05 to .37). Subsequently, Hypotheses 4 and 6 are not confirmed.

Discussion. Study 2 found that when pride was elicited as a consequence of recalling a past sustainability behaviour, its experience led to subsequent feelings of anticipated pride and guilt that mediated the route from recalled emotion to purchase intentions. These same effects were not found when recalled guilt was elicited. Based on these results, mediation happens via anticipated pride and guilt only when comparing

between the recalled pride and neutral recall conditions. These results support the claim that pride is necessary for regulating sustainable behaviour through the anticipation of achieving future feelings of pride and avoiding future feelings of guilt. This study supports previous research that found both anticipated pride and guilt to influence sustainable consumption behaviour (Antonetti and Maklan, 2014a, 2014b). This research does not corroborate previous studies which suggest that negative appraisals of past behaviour are more influential than positive appraisals for influencing (prosocial) behaviour intentions (Jordan et al. 2011). We note that the lack of a positive finding in this respect does not necessarily contradict this earlier work; the absence of a significant effect of recalled guilt as compared to a neutral recall may be simply a matter of statistical power, given the many other variables influencing sustainable behaviour we have reviewed. There may also be context-specific differences in car purchase as opposed to other sustainability-related behaviours. Overall, study 2 has shed light into the important role that recalled pride can play in influencing sustainable behaviour intentions, through the desire to reduce future negative feelings as well as to maintain positive feelings.

4.7 General Discussion

Research has shown that both anticipated pride and guilt can influence ethical behaviour (Antonetti and Maklan, 2014a, 2014b); however, how these emotions might themselves be influenced is unclear. In this study, we have focused on the potential for recalled pride and guilt to influence these anticipated emotions and hence behaviour. Across the two studies, we show that (1) recalled pride, resulting from recalling a past sustainable behaviour, can increase sustainable purchase intentions compared to neutral recall; (2) recalled guilt, resulting from recalling a past unsustainable

behaviour, does not significantly increase sustainable purchase intentions compared to neutral recall; and (3) both anticipated pride and anticipated guilt mediate the impact of recalled pride on sustainable purchase intentions when recalled pride is elicited.

4.7.1 Theoretical Contributions

This study builds on recent work showing that pride, like guilt, is an important emotion for motivating sustainability-related attitudes and behaviours (Onwezen et al., 2013, 2014; Antonetti and Maklan, 2014a, 2014b). Our study goes further, challenging common assumptions that negative self-conscious emotions are key to motivating sustainable behaviour: our results suggest that pride about past behaviour has a stronger effect than guilt about past behaviour in motivating sustainable consumption choices – in our context, at least. However, this pride in appraisal influences behavioural choice not just through anticipated pride but also through anticipated guilt, reinforcing that positive and negative self-conscious emotions should be researched in parallel and that practitioner sustainability-motivated interventions should treat both in parallel.

This study also contributes to the broader emotional appraisal literature. To our knowledge, there are no studies to date that have looked at the role of anticipated pride in mediating the effect of recalled pride on consumer related behaviours (Watson and Spence, 2007). The findings of the current research have highlighted the importance of including feelings of pride associated with a past behaviour for understanding or indeed triggering anticipated pride and guilt towards future behaviour intentions. More broadly, these findings suggest that future behaviour research using emotions to drive attitude and behaviour change should consider a route via pride. Rather than making

people feel guilty, we can make people feel good about their past sustainability achievements to better encourage future emotions—positive and negative—and engender sustainable behaviour choices.

4.7.2 Practitioner Implications

These findings provide a significant opportunity for marketing managers wishing to change behaviours towards being sustainable. Practitioners are looking for new ways to engender sustainable behaviours, but have overlooked the potential of reminding consumers about their past choices. This study has shown a way to manipulate feelings of recalled pride and guilt that can be easily achieved in marketing communications, by simply asking consumers to think of a past occasion whereby they did or did not behave in a sustainable manner. Online channels provide a variety of options for asking consumers to recall past incidents, such as in market research or co-creation settings. Face-to-face channels, or other human-mediated channels such as online chat, could also naturally discuss past behaviours as part of the process of understanding consumer needs.

This approach may prove useful for a number of sustainability behaviours that are targeted through marketing communications, for instance recycling behaviour and energy-saving usage behaviour, and not just purchase decisions. Over time, memories of positive emotional experiences related to an individual's past sustainable achievements may become more prominent in future decision-making, leading to individuals needing just small cues to motivate future purchase decisions (Aaker et al., 2008; Peter and Honea, 2012). More broadly, this research supports recent findings that practitioners should avoid assuming that explicit guilt and fear appeals are the

only emotional option in sustainability marketing communications; instead, practitioners might consider using positively framed messages, or indeed conducting field experiments to try out several options, along the lines of our study.

4.7.3 Limitations and Future Research

A number of limitations are evident. First, the study involved a self-report survey conducted through an online panel provider whereby participants were paid a small fee. This could have allowed social desirability bias. All precautions were taken to reduce this through the study design, such as collecting dependent variables first, and including quality control variables to reduce poor responses. Second, while both samples were asked about their actual intentions as individual consumers rather than about hypothetical situations, neither was representative of a national population so could have idiosyncratic properties. Third, while the manipulation of asking participants to recall past behaviours was in a natural market research environment which can be replicated by practitioners, whether this manipulation would be more or less successful in other contexts such as on a firm website is unclear. Fourth, the dependent variable of this study was purchase intention, which as we have discussed is all too often distinct from behaviour; future field replications to test for actual behaviour change would be invaluable.

Research is also needed into contextual differences, which may be substantial. For example, feelings of pride and guilt might be higher for contexts where the sustainability issue associated with a behaviour is more salient to consumers. Thus, eliciting recalled pride and guilt might be more successful for high issue-salient contexts. Some consumers think about carbon, for example, when buying a car, but

less when buying kitchen white goods; similarly they think about social sustainability more for coffee or tea purchases than for soft drink or alcohol purchases; so in the latter cases, the persuasiveness of sustainability-related marketing interventions becomes lower (Kronrod et al., 2012). Indeed, we made use of this effect in our design for Study 2, providing information to participants on the environmental impact of transport in order to boost the salience of environmental sustainability. In support of this notion, research has found that issue proximity can influence the effectiveness of guilt appeals; for example, when issue proximity is high, guilt appeals can backfire and lead to a reduction in sustainable behaviour intentions (Chang and Pham, 2013).

Further research might also examine how goal compatibility can be used to influence recalled pride. For example, increasing goal relevance and goal congruency related to the sustainable behaviour could lead to higher experiences of positive emotions (Nyer, 1997). As our findings suggest that recalled pride can play a role in influencing sustainable purchase intentions, increasing goal relevance and goal compatibility could lead to heightened recalled pride and subsequent feelings of anticipated pride and guilt. Future research might experiment with ways in which sustainable behaviour can be primed as a desirable goal and examine its effect on sustainable behaviour decisions.

Overall, the conceptualisation of recalled pride and guilt for motivating behaviours remains little explored in sustainability contexts, yet the results of this research highlight its potential. Further research is required to explore the role of pride in more detail and to explore the potential of manipulating recalled pride and guilt for different sustainability contexts, as well as in practice.

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4.9 Appendix

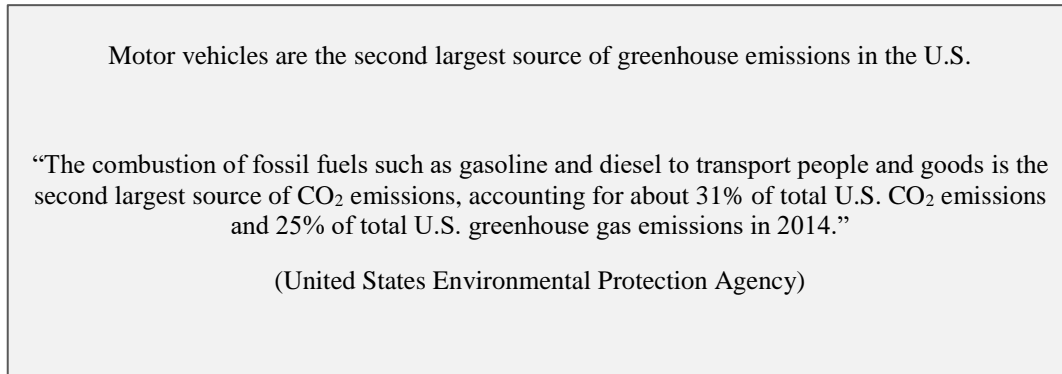


Figure 4-5 Material presented in Study 2 to boost the salience of environmental sustainability in car purchase choice

5. OVERALL DISCUSSION

5.1 Contributions

This research has contributed to knowledge through each of its three objectives: to synthesise current knowledge on pro-environmental consumption behaviour, to understand what causes feelings of pride and guilt for motivating sustainable purchase decision, and to explore ways of manipulating appraisals of pride and guilt for encouraging sustainable purchases. The thesis has thereby provided at least some answers to its research question of ‘*What are the antecedents of anticipated pride and guilt for influencing sustainable product choice?*’

In doing so, the thesis contributes to several bodies of theory, including self-conscious emotions, appraisal theory, and self-discrepancy theory. Furthermore, this research provides a contribution to practice by successfully priming feelings of recalled pride and guilt to influence subsequent sustainable behaviour intentions. This chapter consists of the following parts. First, the proposed contributions to theory will be presented. This will be followed by the proposed contributions to practice. Limitations to the research will then be discussed. This will be followed by a discussion on future research directions. Finally, this chapter ends with a concluding reflection, and a personal reflection.

5.1.1 Theoretical contributions

The main contribution of this research is to the theory of self-conscious emotions, highlighting the importance of both pride and guilt for influencing behavioural choices. The research findings challenge current beliefs that negative self-conscious emotions are the key to motivating behaviour. The findings of this thesis highlight the

importance of feelings of anticipated pride and guilt for motivating sustainable purchase choices. Moreover, the thesis tests two complementary mechanisms for triggering feelings of anticipated pride and guilt towards future behaviour intentions. The findings of both empirical papers suggest that positive message appeals eliciting pride can be as effective as, if not more effective, than negative appeals eliciting guilt.

This section will now discuss the theoretical contributions aligned with the research objectives.

Objective 1: *to synthesise current knowledge on pro-environmental consumption behaviour, in order to generate a conceptual framework for the topic and outline research directions.*

The first contribution of this research has been through the synthesis of the fragmented literature on pro-environmental behaviour and the development of a conceptual framework (Figure 5-1). The limited scholarly research on the theoretical mechanisms that underpin specific marketing interventions informed the need for a theory-based conceptual framework that can serve as a basis for future research. The conceptual framework, based on CIMO-logic (Denyer *et al.*, 2008), identified the relationships between marketing communication interventions that influence environmental behaviour outcomes and the theoretical mechanisms required to mediate this relationship. Very few studies simultaneously embrace all four of context, intervention, mechanism and outcome; therefore, our conceptual framework contributes to the sustainable behaviour literature by synthesising the literature addressing each of these variables. From this, a number of propositions were developed about how marketing interventions influence behavioural outcomes and key

areas that are still not fully understood where future research might focus.

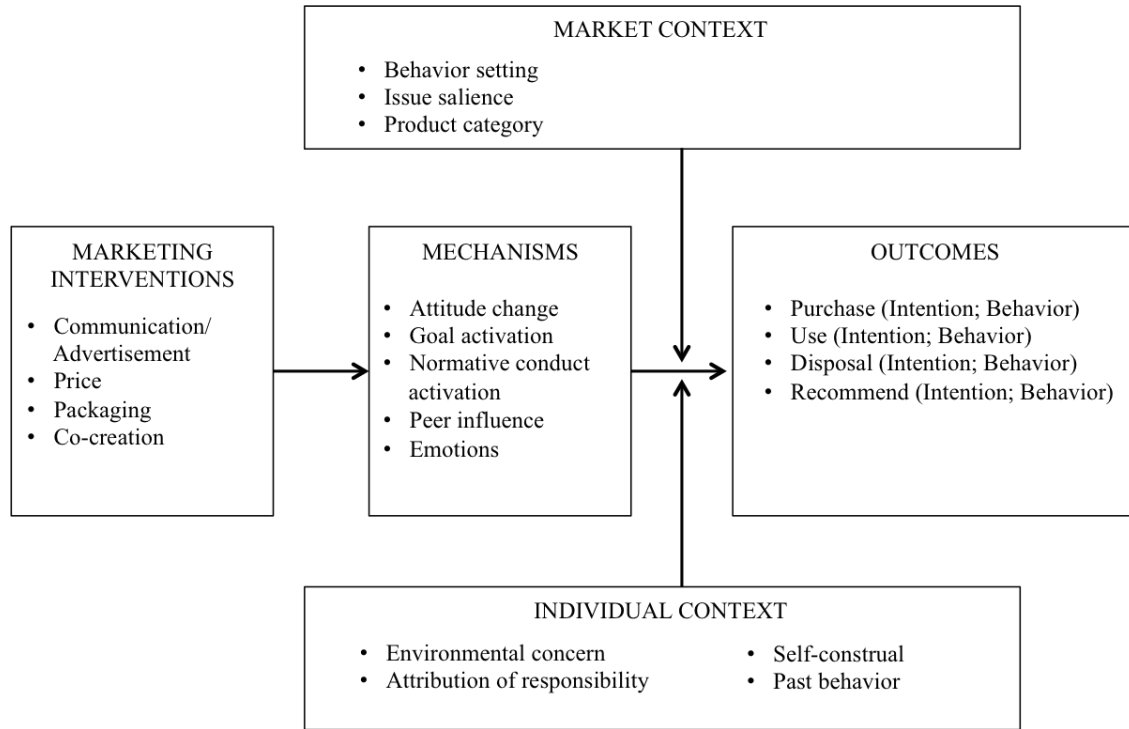


Figure 5-1 Pro-environmental marketing conceptual framework

The conceptual framework highlights five broad categories of marketing intervention that can influence environmental behaviour. Three are well established in literature (communications/advertisements, price and packaging) and two are promising approaches where the literature is generally more recent (packaging and co-creation). These interventions influence behaviour through a number of mechanisms, outlined in the framework. The framework also highlights a number of different environmental behaviour contexts that moderate the influence of the theoretical mechanisms on environmental behaviour outcomes. This conceptual framework contributes to the

sustainable marketing literature by integrating the research in this area and provides a common method to assess the outcome of different marketing efforts.

From this synthesis of the literature, a number of areas were identified for further research. These gaps informed the research direction, research question and research design of this thesis. Three related areas of research were identified as promising for further research, namely the role of anticipated pride and guilt, self-standards and emotional appraisals (Figure 5-2).

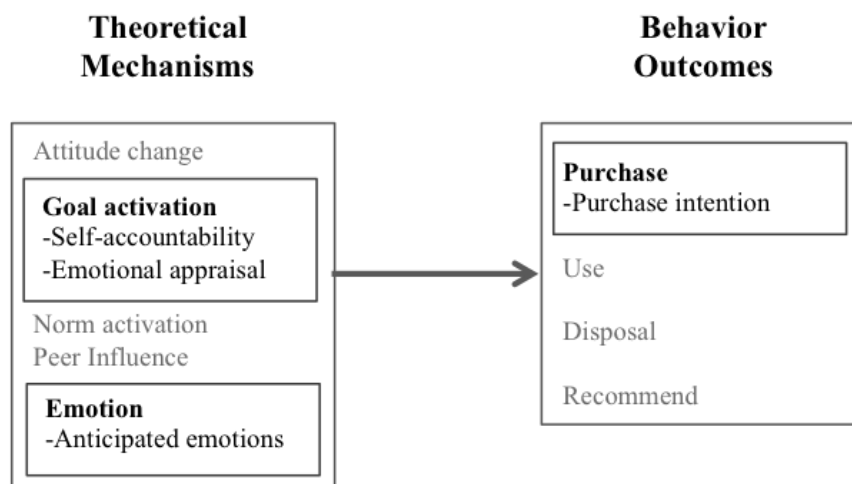


Figure 5-2 Gaps in the sustainability marketing literature

Objective 2: *to gain an understanding of what causes feelings of anticipated pride and guilt for motivating sustainable purchase choices.*

Particularly striking from the synthesis of literature was the lack of research on anticipated pride and guilt for motivating sustainable behaviour and specifically, what causes these emotions. Self-conscious emotions are documented as being able to motivate behaviour due to the attribution of accountability to the self. From the synthesis of literature, the role of anticipated guilt was addressed in several studies as successfully motivating sustainability related behaviours (Steenhaut and Van Kenhove, 2006; Chang et al., 2013; Pelozo et al., 2013; Antonetti and Baines, 2015). Yet research addressing the role of anticipated pride for motivating sustainability related behaviour was limited. Only recently has anticipated pride been applied to sustainable consumption choices such as ethical purchase intentions (Harth et al., 2013; Antonetti and Maklan, 2014a, 2014b).

A gap in the literature and a promising area for further research was the concept of self-accountability, addressed by Pelozo and colleagues (Pelozo et al., 2013), in the context of ethical purchase intentions. This concept, derived from self-discrepancy theory, is defined as the extent to which one feels accountable to live up to a personally held self-standard. We chose to build on this research, as Pelozo et al. (2013) had only explored the negative route to purchase intentions, whereby self-accountability is mediated by anticipated guilt (see Figure 5-3). Like self-discrepancy theory, pride shares the ability to motivate behaviour through the desire to behave in a way that is congruent with internal self-standards (Tracy and Robins, 2007); however, the potential of pride for motivating behaviour has not been fully explored within self-discrepancy literature.

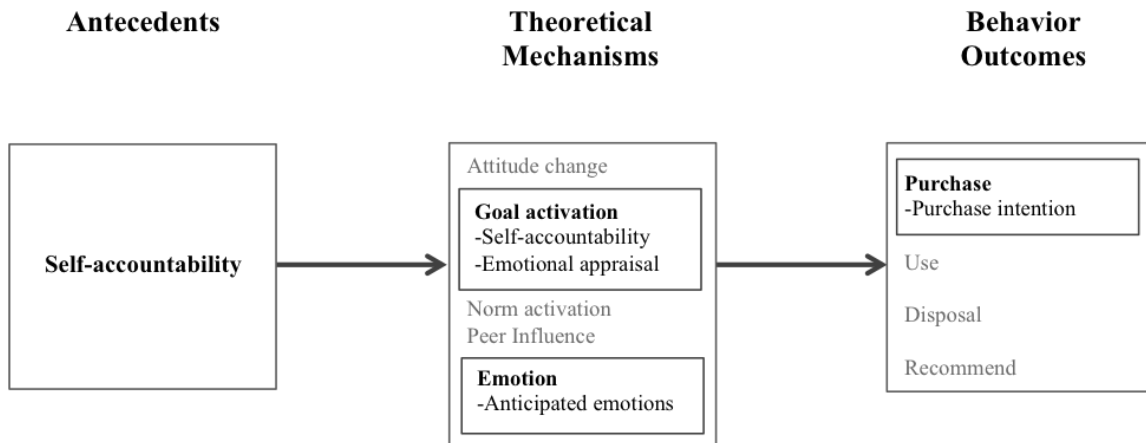


Figure 5-3 What was already known about self-accountability and emotional appraisals

The first part of the empirical research contributes to self-conscious emotion literature and discrepancy theory literature by extending Pelozo et al.'s (2013) conceptualisation of self-accountability by proposing an alternative route via anticipated pride. This also extends recent work, which has shown other respects in which pride, and not just guilt can impact on sustainable consumer choice (Harth et al., 2013; Onwezen et al., 2013, 2014; Antonetti and Maklan, 2014a, 2014b). The results found a complementary route for anticipated pride and guilt that mediated the role of self-accountability on purchase intentions. Furthermore, contrary to existing beliefs that negative emotions are more influential than positive ones for driving behaviour, this research found that the impact of anticipated pride on sustainable purchase intentions was, in fact, greater than that of anticipated guilt. These findings suggest that consumers with higher levels of self-accountability are more likely to have their purchase decisions influenced by anticipated feelings of pride towards the outcome of a sustainable purchase. Furthermore, there have been no studies, until now, that have looked at the role of anticipated pride in mediating the effect of self-standards on behaviours, and none has done so in a sustainability consumerism context.

Objective 3: *to test ways of manipulating appraisals of pride and guilt for encouraging sustainable purchases.*

As previously outlined, the role of self-conscious emotions in the sustainable marketing literature has not been sufficiently explored, especially the role of positive self-conscious emotions such as pride. Moreover, there is little research that has explored the antecedents of anticipated pride and guilt or how to elicit such emotions for influencing sustainable consumption choices. Although prior research has reported that recalling positive valence can have a positive behavioural effect (Tong 2015), this focus on emotional valence in general and what appraisals cause this positivity of emotion leaves uncertainty about the role of more specific emotions for influencing behaviour outcomes (Watson and Spence, 2007). We address this gap by building on recent research by Antonetti and Maklan (2014a, 2014b) that found both anticipated pride and guilt could be activated by a post-consumption scenario for influencing ethical purchase intentions.

To achieve objective 3, of manipulating appraisals of anticipated pride and guilt for influencing sustainable purchase intentions, two experiments were conducted. Building on appraisal theory, the aim of these experiments was to test the impact of recalling a past (un)sustainable behaviour on feelings of anticipated pride and guilt towards the outcome of a future sustainable behaviour. The results confirm prior research evidencing that emotional responses are created as a result of one's evaluations of an event (Lazarus, 1991). By encouraging consumers to reflect on a past event and its associated emotions, we were able to significantly influence future behaviour intentions (Ajzen, 2002; Levine et al., 2001). These findings also contribute to the broader emotional appraisal literature, as to our knowledge, there are no studies to date

that have looked at the role of anticipated pride in mediating the effect of recalled pride on consumer related behaviours (Watson and Spence, 2007). We contribute to this literature by exploring the role of recalled pride and guilt in a sustainable consumer behaviour context.

These findings contribute to existing literature on sustainable marketing by showing that pride about a past behaviour had a stronger effect than guilt about a past behaviour in motivating sustainable consumption choices. Furthermore, this appraisal of pride influences behavioural choice not just through anticipated pride but also through anticipated guilt (see Figure 5-4), reinforcing that positive and negative self-conscious emotions should be researched in parallel.

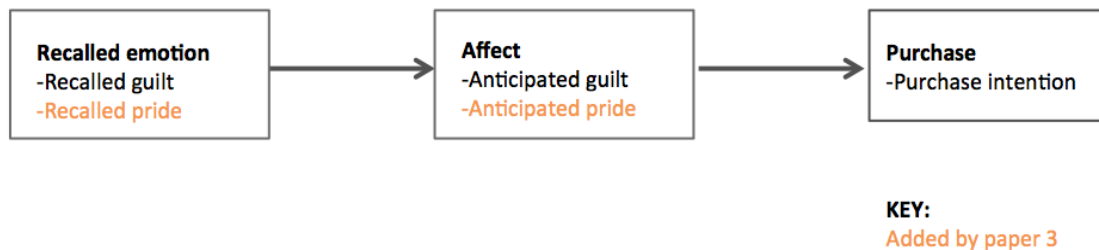


Figure 5-4 Contribution of paper 3

In summary, the findings of this research have contributed to the self-conscious emotion literature and the emotional appraisal literature by highlighting the importance of including feelings of pride associated with a past behaviour for understanding or indeed triggering anticipated pride and guilt towards future behaviour intentions. More broadly, these findings suggest that future behaviour research using emotions to drive attitude and behaviour change should consider a route via pride.

Figure 5-5 summarises the contributions to knowledge achieved by the empirical studies that form papers 2 and 3 of this thesis.

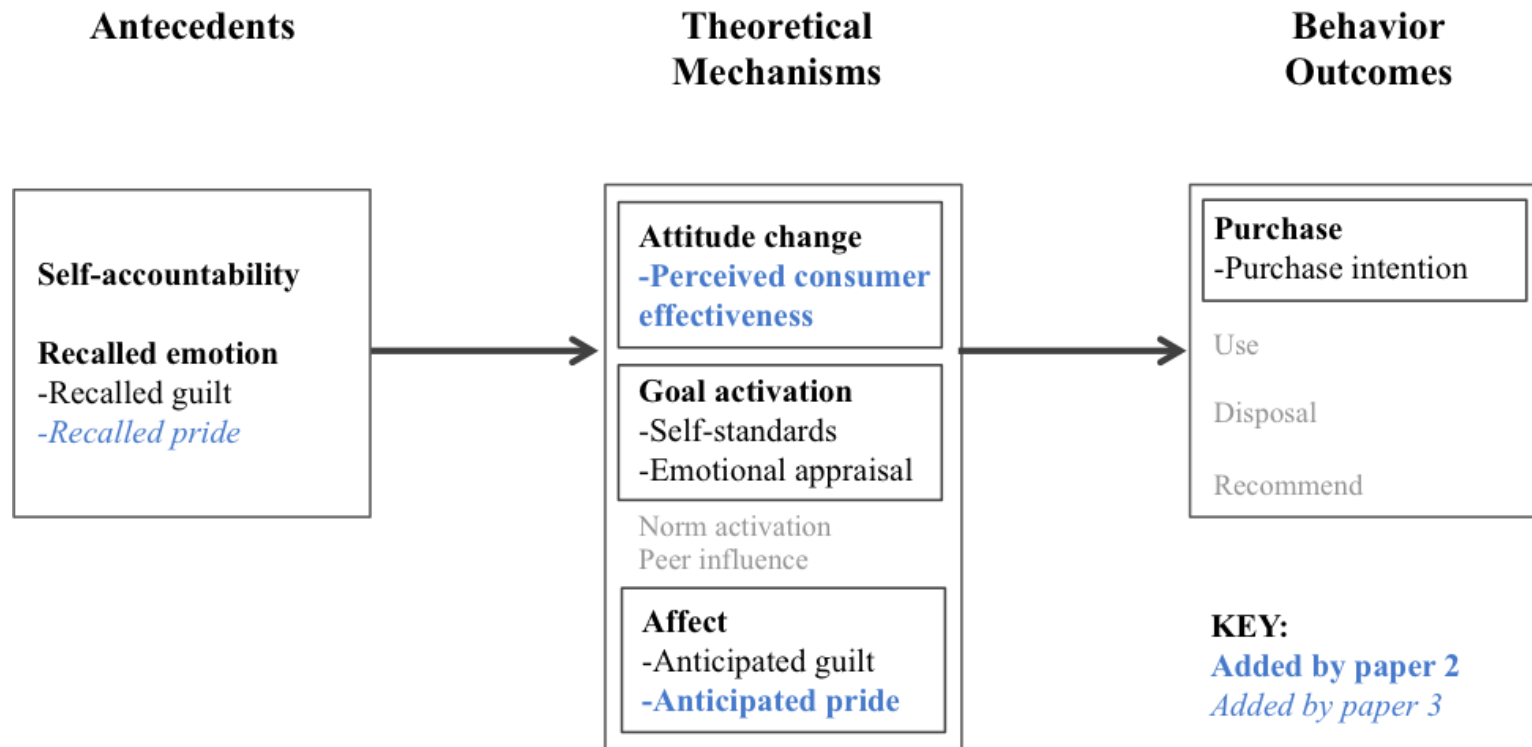


Figure 5-5 Contributions made to literature by papers 2 and 3

5.1.2 Contributions to practice

The findings of this research present a number of opportunities for practitioners wishing to engage consumers in sustainable consumption behaviour. The findings of this PhD research have been discussed with a refurbished white goods company and used to provide a number of recommendations for the development of their marketing communications. The findings of this research has also contributed in the form of industry white papers, produced for the sponsor of this PhD research, Clarity Sustainability, a sustainable marketing agency.

The findings of this research have shown that marketing communications can effectively influence sustainable purchase intentions across a number of product contexts. This contributes to practitioners aiming to drive sustainable behaviour through marketing communications, by presenting a tested method for encouraging sustainable consumption choices that may be generalisable across a number of different product categories. This has the benefit of informing the development of effective marketing communications on a relatively low marketing budget.

The findings from the first empirical study (paper 2) provide practitioners with a route through which an online consumer dialogue can influence prosocial buying behaviour, by focusing on self-standards and the mediating role of anticipated pride and anticipated guilt. As well as endeavouring to optimise market attitudes within technology mediated environments, marketing managers can focus on consumers' motivation to live up to their self-standards, as heightened self-accountability was found to increase preferences for sustainable products.

The findings from the second empirical study (paper 3) showed how practitioners can manipulate feelings of recalled pride and guilt to influence sustainable purchase choices. This can be easily achieved in marketing communications, by simply asking consumers to think of a past occasion whereby they did or did not behave in a sustainable manner. Online channels provide a variety of options for asking consumers to recall past incidents, such as in market research or co-creation settings.

This research supports recent findings that practitioners should avoid using explicit guilt and fear appeals in sustainability marketing communications and focus on positively framed messages that engender positive feelings such as pride. Marketing practitioners might consider using less explicit guilt appeals in online marketing communications, and instead look to use positively framed messages designed to engender pride.

The discovery across both studies of a stronger route through feelings of pride, suggests that the mechanisms identified in this research would work even better if the recalled incident were a positive story rather than a negative one. This approach may prove useful for a number of sustainability behaviours that are targeted through marketing communications, for instance recycling behaviour and energy-saving usage behaviour, and not just purchase decisions. Over time, memories of positive emotional experiences related to an individual's past sustainable achievements may become more prominent in future decision-making, leading to individuals needing just small cues to motivate future purchase decisions (Aaker et al., 2008; Peter and Honea, 2012).

More broadly, the synthesis of literature has implications for practitioners aiming to engage consumers in sustainable behaviour by providing a framework that can guide

the development of marketing interventions by highlighting the theory-based mechanisms underpinning different sustainable behaviour outcomes. It also lists a number of contextual factors that might moderate the effectiveness of key marketing interventions on sustainable behaviour outcomes. Furthermore, this framework provides a common method to assess the outcome of different marketing efforts, to inform marketing managers where best to allocate resources for future marketing interventions.

5.2 Limitations

5.2.1 Ethical considerations

This research had some ethical considerations requiring reflection. By conducting field experiment research, it required not telling participants what the true purpose of the study was, so as not to influence the answers. Furthermore, two of the studies used manipulations, to cause participants to feel certain emotions, without them knowing. The research design was validated through a pilot test with Cranfield University School of Management Master's students to get feedback and uncover any issues with the chosen methodology. Manipulation is an approach that is common practice in marketing literature and participants were de-briefed at the end of each survey to explain the true purpose of the study was to understand consumer behaviour in relation to sustainable product choices, and thank them for their participation, which was critical for the success of this research. The pilot suggested that participants had no adverse outcomes, providing reassurance that the research was ethically appropriate. This research method was submitted for consideration and subsequently approved by Cranfield University's ethics committee.

5.2.2 Methodology limitations

Although quantitative methods are predominantly used in the marketing literature, some limitations have been identified with the chosen research method of this PhD research. Firstly, as self-report measures were used through an online panel provider whereby participants were paid a small fee, it could have led to social desirability bias. Every attempt was taken to alleviate this, such as collecting dependent variables first, and including quality control variables to reduce poor responses; however, as the study

did not observe actual behaviour outcomes, it is acknowledged that limitations still persist. An ideal design to further test the findings would be field experiments, combining high internal validity and high external validity.

Second, since three of the studies used online panel providers, in common with usual market research practice by firms, the sample was not randomly selected from the population so may not be fully representative, despite stratification. Survey respondents may suffer from fatigue, therefore quality control questions were used to reduce this danger.

Third, while both samples in the recalled emotion study (paper 3) were asked about their actual intentions as individual consumers rather than about hypothetical situations, neither was representative of a national population so could have idiosyncratic properties.

Fourth, while the manipulation of asking participants to recall past behaviours was in a natural market research environment which can be replicated by practitioners, whether this manipulation would be more or less successful in other contexts such as on a firm website is unclear. To control for inaccurate recall, participants were asked to share the event they had thought of in detail by typing it into the provided field in the survey. This was to ensure participants had solidified the occasion in their mind and so any irrelevant or inaccurate responses could be filtered out.

Fifth, there is a limitation with the reliance of participants having engaged in a sustainable behaviour in the past in order to be able to recall a behaviour in order for the recalled pride and guilt manipulation to work. To address this issue, the recall manipulation did not specify a specific sustainable behaviour; instead it asked

participants to recall any sustainable behaviour in order to not exclude any participants that may not have engaged in a specific sustainable behaviour in the past. Still, this does pose a limitation, as there may have been participants that have not previously engaged in any sustainable behaviour or may not have been clear what sustainability is. Differing understandings of sustainability would have been likely between participants that may have had an impact on the quality of their answers.

Six, this research is limited by its scope and therefore does not test other variables that may influence anticipated pride and guilt. Other promising areas to explore, for example, are the role of positive discrepancies and social identities for influencing feelings of pride and guilt and subsequent sustainable behaviour.

5.3 Future research directions

This section highlights the key directions for further research that have been identified from this research.

First, future research might want to revisit the mechanism of self-accountability by comparing conditions of high and low self-accountability and their impact on anticipated pride and guilt and consumer behaviour. Furthermore, future research could experiment with priming sustainability as an important goal and explore the effect of increased goal congruency on appraisals of recalled pride and guilt for motivating sustainable behaviour.

Second, further research might also examine how goal compatibility can be used to influence recalled pride. For example, increasing goal relevance and goal congruency related to sustainable behaviour could lead to higher experiences of positive emotions (Nyer, 1997). As our findings suggest that recalled pride can play a role in influencing sustainable purchase intentions, increasing goal relevance and goal compatibility could lead to heightened recalled pride and subsequent feelings of anticipated pride and guilt.

Third, the conceptualisation of recalled pride and guilt for motivating behaviour is relatively new in a sustainability context. Further research is required to explore the potential of recalled emotions in more detail and identify other possible ways in which recalled pride and guilt can be manipulated for influencing anticipated feelings of pride and guilt and future sustainable behaviour.

Fourth, research is also needed into contextual differences, which may be substantial for influencing the effectiveness of recalled pride and guilt. For example, feelings of

pride and guilt might be higher for contexts where the sustainability issue associated with a behaviour that is more salient to consumers. Thus, eliciting recalled pride and guilt might be more successful for high issue-salient contexts. Some consumers think about carbon, for example, when buying a car, but less when buying kitchen white goods; similarly they think about social sustainability more for coffee or tea purchases than for soft drink or alcohol purchases; so in the latter cases, the persuasiveness of sustainability-related marketing interventions becomes lower (Kronrod et al., 2012).

Fifth, empirical studies are required to understand the conditions under which specific marketing interventions and theoretical mechanisms are most effective in explaining pro-environmental behaviour outcomes. More research is required to explore the effect of specific individual contexts and marketing contexts for moderating environmental behaviour outcomes. Rather than focusing on a single behaviour category or one marketing context, research is required that looks at multiple contexts and investigates how these interact to impact behaviour. Furthermore, more experimental design research is required to provide an evidence base of what works for influencing actual behaviour outcomes, rather than relying on self-report measures of behaviour intentions.

Sixth, although this research has identified ways in which marketing interventions can influence sustainable behaviour outcomes, there is much work to be done on additional interventions that have not yet been fully explored for influencing specific behaviour outcomes. As highlighted in the systematic review, packaging interventions and the co-creation of environmental products have potential for influencing a number of pro-environmental purchase, use and disposal behaviours.

Seventh, the systematic review conducted at the beginning of this research identified previous studies that had addressed sustainable purchase, use and disposal behaviour outcomes; however, more work is needed to identify the specific marketing interventions and the theoretical mechanisms that influence these behaviours and how they might interact with each other to achieve long-term sustainable behaviour.

Eighth, the conceptualisation of perceived consumer effectiveness (PCE) and its relationship to self-accountability requires further research. Although the study testing the mediating role of PCE in paper 2 was not significant in explaining sustainable purchase intentions, there appeared to be a significant relationship between PCE and self-accountability, partially mediated by anticipated pride and guilt. This partially supports previous research that has shown the motivating effect of perceived consumer effectiveness on sustainable consumption choices (e.g. Antonetti and Maklan, 2014b). Future research might explore this in more detail and extend on this by assessing its potential in mediating the effect of recalled pride and guilt on sustainable behaviour outcomes.

Ninth, future research might explore some of the moderators highlighted in the literature review conceptual framework to explore other variables that may be influencing the effect of pride and guilt on sustainable behaviour. Of specific interest is the behavioural setting in which a marketing intervention is being received, specifically whether this is a public or private context. If it is a public context, then what role, if any does social norms and social identity play? Furthermore, with the increased importance of digital marketing, future research could explore these effects using online and offline channels.

Tenth, there is an increased interest in facilitating a Circular Economy; however, engrained attitudes and behaviours from current consumption patterns means very few people currently purchase circular economy products or services. The shift to a circular economy will disrupt current consumption patterns to consumers becoming users with new circular business models. Future research might explore the influence of the self-accountability and recalled emotion mechanisms on consumer's adoption of such circular products and services.

5.4 Concluding reflections

This section concludes this thesis by summarising the key points discussed in each chapter and reflects on the overall contribution of this research. This section will end with a personal reflection of this PhD journey.

This research set out to explore and answer the following research question:

What are the antecedents of anticipated pride and guilt for influencing sustainable product choice?

This thesis addresses an issue of significant importance for both theory and practice. Research interest in social and environmentally sustainable behaviour has been increasing in recent years. Awareness among the public is also increasing, with environmental sustainability in particular becoming an established social norm in much of western society (Peloza et al., 2013), in part due to the more frequent reports in the media. The marketing function, which has valuable expertise in impacting consumption behaviour, is increasingly being used in the hope of influencing behaviour choices towards more sustainable alternatives (Peattie and Peattie, 2009; Gordon et al., 2011).

The concept of the circular economy, which promotes the more effective use of materials (Ellen MacArthur Foundation, 2013), has gained recent interest with companies. These new business models illustrate the potential for engaging with consumers across the entire product life-cycle, including not just the purchase stage but also the use and disposal stages. Some examples of these business models include repairing existing goods (Schrader and Thøgersen, 2011) and refurbishing used goods (O'Connell, Hickey and Fitzpatrick, 2013) for sustainable consumption.

Attempts to change consumer sustainable behaviour have, however, had limited success (Barbarossa and Pelsmacker, 2016; Davies and Gutsche, 2016), and a longstanding scholarly discussion has considered whether this is due to weaknesses in theory. Within the current sustainable behaviour literature, the prominent mechanism is attitude change. Much of this work is underpinned by rational choice theories such as the Theory of Planned Behaviour (Ajzen, 1991). While attitude change through information-based communications can influence consumer behaviour, the literature acknowledges a substantial attitude-behaviour gap (Darley et al., 2010) where although individuals state that they care about being sustainable, many do not demonstrate this in their actual behaviour choices (Papista and Krystallis, 2013).

Rather than focusing research on attitude change mechanisms that have had limited success, there is a need for more research exploring alternative mechanisms for different sustainable behaviour outcomes. Two promising mechanisms addressed in recent literature, include goal activation and emotions. The first of these mechanisms, goal activation, motivates self-regulatory behaviour through an individual's desire to steer thoughts and behaviour in order to achieve a goal (Higgins et al., 1997). The second mechanism, emotions, relates to a consumer's desire to reach and maintain positive emotions and avoid negative ones through their behaviour choices.

The first promising mechanism is self-accountability, which was examined in one study by Peloza et al. (2013). These authors developed a measure for self-accountability, which they define as the extent to which one feels accountable to live up to a personally held self-standard. This concept derived from a body of psychological research based on self-standards and self-discrepancy theory (Higgins et al., 1987). This theory understands individuals to have internally held self-standards

that guide behaviour. If a discrepancy occurs between one's actual behaviour and an ideal self-standard, individuals will be motivated to act accordingly so as to align them (Higgins et al., 1987). This concept is promising, as it has the benefit of being measurable. Pelozo et al. (2013) showed that self-accountability could be enhanced through dialogue, by asking individuals to recall a previous occasion whereby they behaved in a way that was not consistent with their moral self-standards. The findings suggest that consumers with higher levels of self-accountability are more likely to have their purchase decisions influenced by anticipated feelings of pride from a sustainable purchase, with guilt also appearing to play a lesser role.

Relatedly, the second mechanism, recalled emotions, also shows promise for sustainable behaviour contexts. Marketing research has demonstrated that emotions play an important role in consumers' decision-making (Kemp et al., 2012), and the ability of advertising to elicit emotional responses from consumers has been well researched (Huhmann and Brotherton, 1997; Kemp et al., 2012). Within sustainability contexts, the study of emotions in marketing communications has been dominated by negative emotions such as anticipated guilt. More recently, the potential of anticipated pride for motivating sustainable consumption behaviour has been applied to sustainable consumption choices such as ethical purchase intentions (Antonetti and Maklan, 2014a, 2014b).

For practitioners, this raises the crucial question of how anticipated pride and guilt can themselves be engendered. The promising study by Antonetti and Maklan (2014a) demonstrated that feelings of anticipated pride and guilt, elicited through a postconsumption scenario, successfully influenced future ethical purchase decisions. Building on this research, a theoretical possibility for influencing anticipated pride and

guilt is to look at the role of emotional recall.

The impact of recalling a past emotion on future behaviour outcomes has been successfully demonstrated in a variety of contexts, and is believed to influence behaviour via their impact on *anticipated* emotions. However, most of these recalled-emotion studies have the limitation that they measure merely emotional valence (Baumeister et al., 2007) and not specific emotions. While this previous work is promising, it is still not clear whether and how recalled pride and guilt can be elicited in order to guide future behavioural choices (Aaker et al., 2008). In particular, the role of emotional appraisals of pride and guilt, elicited from a past behaviour, for influencing anticipated pride and guilt and future sustainable behaviour.

This current research has addressed this gap by examining how recall of a past sustainability-related event, chosen to elicit either recalled pride or recalled guilt, impacts on anticipated pride and guilt and future sustainable purchase intentions. These findings are relevant to practitioners wishing to influence sustainable consumer behaviour, by providing a way to manipulate anticipated pride and guilt that can be easily achieved in marketing communications.

The findings of this research suggest that by using an approach that focuses on the individual responsibility of a behaviour through self-accountability and self-conscious emotions elicited from a past sustainable behaviour, marketing managers can motivate consumers to want to behave in a way that will be congruent with the goal of being environmentally friendly. More specifically, this research identified the superior role of pride for encouraging sustainable behaviour rather than focusing on guilt. These

findings suggest that marketing communications should aim to elicit feelings of pride to successfully influence sustainable purchase choices.

Sustainable consumer behaviour continues to be discussed by practitioners but the comparative empirical research base is slight and there has been no attempt to theoretically synthesis the mechanisms underpinning pro-environmental behaviour. This research has explored two mechanisms, self-accountability and recalled emotions, for encouraging sustainable consumption choices with implications for practitioners and scholars. Understanding how to change consumer's attitudes and behaviour towards being sustainable involves an understanding of the theoretical mechanisms by which marketing interventions have an effect, and to take into account the individual contexts that might influence the effectiveness of these interventions.

In the challenge of nudging consumers towards more sustainable options, there appears to be more options than research has given credit to. Current beliefs might be that sustainable behaviours are hard to change; however, this research has shown a number of promising options that have not been fully explored in the sustainable behaviour literature that show promise for future research directions.

5.4.1 Personal reflections

Undertaking this PhD has been a life changing experience that I will look back on and cherish. Not only have I had the opportunity to achieve the highest level of academic research, I have been able to do so in an area that is close to my heart. Having being exposed to a diverse range of companies through this PhD and witnessing the challenges that they are facing in engaging consumers in sustainable behaviour change has inspired me to want to help make sustainable consumption mainstream. It has been a pleasure to witness the great things that are happening in this field and although it is still a developing area of research, it is promising to see how the marketing function has the ability to shift consumers' attitudes and behaviour towards sustainable consumption choices.

This journey has provided me with the skills, not only to become a better researcher, but also for my personal development. This has by no means been an easy feat. The past three years have included some of the lowest and most stressful times of my life, yet also some of my fondest. This has been a once in a lifetime experience that I am leaving with a deep sense of gratitude and achievement. I am looking forward to my next chapter and how I can further my research to help contribute to society's most pressing issues surrounding sustainable consumption behaviour.

Infinite growth of material consumption in a finite world is impossibility.

-E.F. Schumacher

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